Values in Physical Therapy

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ABSTRACT

Individual values are an integral component of personal identity, guiding attitudes, behaviors, and dispositions and are the foundation for professional values formation in physical therapy. Professional identity formation occurs throughout a physical therapist's academic preparation and career. During this process, introduction to professional values as defined by the Core Values for the Physical Therapist and Physical Therapist Assistant occurs within an educational context. The integration of professional and programmatic values within the framework of individual values yields a complex multidimensional understanding of values and values formation.

A scoping review was conducted to understand the existing understanding of values within physical therapy. A survey of physical therapists explored basic human values of physical therapists across the United States. Thematic coding and analysis of Doctor of Physical Therapy program mission and vision statements was completed to determine the values of academic programs.

Findings from the studies within this manuscript suggest that a diverse and changing understanding of values exists within physical therapy with the need for a contemporary perspective on values. Physical therapists embrace values that are otherscentric though differences in values exist, and programmatic values center on societal benefit, competence, scholarship, recognition, and excellence. The findings suggest that physical therapists hold values associated with the betterment of others and society while physical therapy programs value their societal impact and the societal influence of their graduates. However, further studies are needed to understand the process of values formation and to create an updated values framework for physical therapy.

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Chapter 1: Introduction to Values in Physical Therapy

The Affective Domain and Professional Identity Formation

Physical therapy (PT) is a profession of movement experts who utilize "exercise, hands-on treatments, and education" to improve the quality of life for those they serve.\footnote{1}

Physical therapists utilize a variety of abilities to develop impactful patient-centered care plans within a biopsychosocial framework.\footnote{2}

Physical therapists integrate three domains of clinical practice: cognitive, psychomotor, and affective – habits of mind (knowing), habits of hand (doing), habits of heart (being).\footnote{3}

The cognitive domain embodies knowledge and knowing (i.e.: anatomy, pathophysiology), the psychomotor domain encompasses doing and motor skills (i.e.: patient handling, manual skills), and the affective domain includes interests, attitudes, appreciation, values and emotions (i.e. empathy, compassion, openness).\footnote{4}

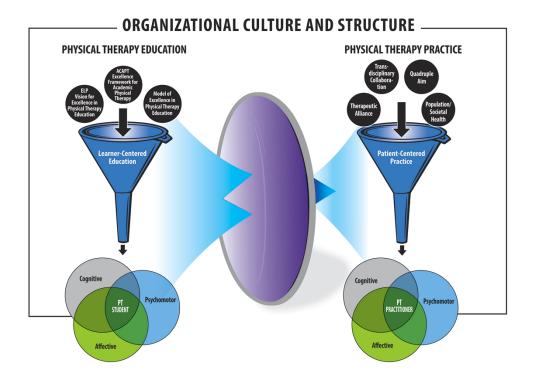
Skills within the affective domain include "interpersonal skills, resilience, self-reflection and awareness, ethical attunement, and compassion.\text{"6}

In PT, the affective domain bleeds into all aspects of clinical practice from building a therapeutic alliance and clinical reasoning to effective communication and collaborations with all stakeholders of the profession.\footnote{6}

The affective domain is a profoundly abstract yet essential component of being a physical therapist and should be an intentional component of the professional identity formation process to support effective clinical practice.⁵ A recent call to action within physical therapist education highlights the importance of the affective domain in clinical practice and academic education.⁵ The parallel nature of physical therapist education and clinical practice suggests affective learning and abilities are integral to the profession in meeting societal needs through patient-centered practice (Figure 1). Academic and

clinical faculty are responsible for the nurturing and development of these traits in learners to prepare them for entry-level clinical practice.^{8,9} Physical therapist education includes not just the knowing and doing of physical therapy, but also the becoming and being.¹⁰

Figure 1: Domains of learning and clinical practice.⁵



The process of becoming a professional within PT is termed professional identity formation (PIF). Professional identify formation can be "described as the process by which different elements of an individual and their life (e.g., personal experiences and relationships) shape their professional identity." PIF occurs through the catalysts of "role models, mentors, experiences and reflections" within professional socialization. Professional socialization is a transformative process where individuals "internalize the specific culture of a professional community" which includes expectations, values,

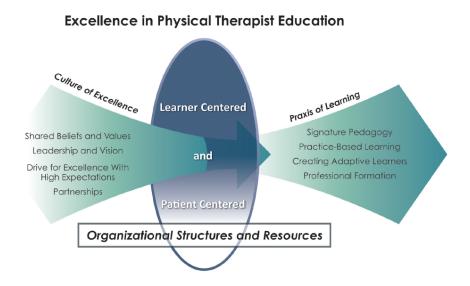
beliefs, customs and traditions resulting in professional identity and development.¹⁴
Mann asserts, "As one's professional identity is developed, there are aspects of learning that require understanding of one's personal beliefs, attitudes, and values, in the context of those of the professional culture." Education is a component of professional socialization which combines "knowledge with the changed sense of oneself."¹⁵
Professional identity formation and professional socialization are the primary means of developing healthcare professionals.

Advances in Physical Therapy Education

Shulman suggests that to understand a profession, you must study its nurseries. 16 Academic institutions serve as the primary preparatory environment for learners while academic and clinical faculty are charged with the responsibility of developing competence and fostering professional identify formation. Within physical therapist education, recent initiatives have promoted academic progress toward elements of excellence and innovation. Jensen and colleagues published the multi-manuscript National Study of Excellence and Innovation in Physical Therapist Education in 2017 which developed a conceptual framework for educational programs (Figure 2). ^{17,18} The Excellence in Physical Therapist Education (EPTE) model has three major dimensions: a culture of excellence, praxis of learning, and organizational structures and resources. The centerpiece of the model are the constructs of learner centered and patient centered learning environments.¹⁷ The culture of excellence embodies four distinct elements: shared beliefs and values, leadership and vision, a drive for excellence with high expectations, and partnerships.¹⁷ The element of shared beliefs and values includes mutual trust and respect across all levels and a commitment to collaborate which are

essential components of a culture of excellence.¹⁸ Within the construct of shared beliefs and values, two recommendations emerged: the cultivation of explicit shared values within a learning community and the dual values of patient-centered care and learner-centered teaching.¹⁸

Figure 2. The model of Excellence in Physical Therapist Education. 17-18



The model created by Jensen and colleagues was embraced by the Educational Leadership Partnership (ELP) which published *A Vision for Excellence in Physical Therapist Education;* a "collaborative viewpoint" meant to move from envisioning the future of physical therapist education to effecting meaningful change that "advances the profession and societal health outcomes." This document contains both educational strategies and approaches along with pillars and guiding principles to achieve the vision of excellence. The vision encompasses professional socialization from exposure to the profession through entry-level education to post-professional development and continuing education throughout one's career. Seven domains of competence were developed which include "complex knowledge, skills, attitudes, behaviors, and values." 19

These multi-domain competencies find expression in entrustable professional activities (EPAs). EPAs are observable and concrete clinical abilities and behaviors that require proficiency in multiple competencies.²⁰ Affective skills, particularly values, inform EPAs across contexts and remain an integral part of achieving the vision of excellence in physical therapist education.

The American Council of Academic Physical Therapy (ACAPT) also expanded upon the EPTE model through the *Excellence Framework for PT Education*.²¹ The twelve critical categories for promotion of excellence in physical therapist education speak to various participants in the educational process including the academic unit, faculty, students, and stakeholders. Within each category, the culture of the institution and academic unit are essential. Categories 1-3 are linked explicitly to mission, vision and goals of the academic unit. Professionalism and professional identity formation are key components of the various characteristics of the framework, most expressly in Category 9: Promotes adaptive, lifelong learning and professional formation. Here the development of "personal autonomy, resiliency, engagement, reflective practice" are affective laden goals essential to a trajectory of growth and continued learning.²¹

These constructs, defining excellence and advancement in physical therapist education, contain affective components related to professional identity formation and clinical practice. These components, which include values, are most often placed within the constructs of educational and programmatic culture.¹⁷⁻²¹ Expressed in the context of entry-level competence and EPAs, values permeate essential elements of clinical practice.²⁰ While values inform multiple domains of learning, they are primarily an affective construct commonly grouped with attitudes and beliefs.⁴ Though terminology

and context has evolved with advances in physical therapist education, values have been an essential component of the PT profession for more than two decades.

Values in Physical Therapy

In 2003, the American Physical Therapy Association adopted Core Values for the Physical Therapist and Physical Therapist Assistant (APTACV) to clarify professionalism in practice, education, and research (Table 1).²² Prior to the development of the APTACV, the primary values-related constructs focused on ethics and generic abilities. The APTA Code of Ethics and Guide for Professional Conduct are ethically focused documents meant to guide professional behaviors.²³⁻²⁴ Generic abilities centered on intellectual, ethical, moral and cognitive development of the learner.²⁵ Additionally, the APTACV was integrated into physical therapist education through A Normative Model of Physical Therapist Professional Education with defined core values, indicators (judgments, decisions, attitudes, and behaviors), and curricular scaffolding including programmatic outcomes.²⁶ The corresponding *Professionalism in Physical Therapy Core* Values Self-Assessment (PPTCVSA) tool defined each value with sample indicators that the individual is asked to rate based on frequency of the indicated behavior.²⁷ The goal of this tool is to promote professional behavior and thought through "personal learning and insight."

Table 1: APTA Core Values for the Physical Therapist and Physical Therapist Assistant ²²				
Accountability is active acceptance of the responsibility for the diverse roles, obligations, and actions of the physical therapist and physical therapist assistant including self-regulation and other behaviors that positively influence patient and client outcomes, the profession, and the health needs of society.				
Altruism	Altruism is the primary regard for or devotion to the interest of patients and clients, thus assuming the responsibility of placing the needs of patients and			

	clients ahead of the physical therapist's or physical therapist assistant's self- interest.
Collaboration	Collaboration is working together with patients and clients, families, communities, and professionals in health and other fields to achieve shared goals. Collaboration within the physical therapist-physical therapist assistant team is working together, within each partner's respective role, to achieve optimal physical therapist services and outcomes for patients and clients.
Compassion and Caring	Compassion is the desire to identify with or sense something of another's experience, a precursor of caring. Caring is the concern, empathy, and consideration for the needs and values of others.
Duty	Duty is the commitment to meeting one's obligations to provide effective physical therapist services to patients and clients, to serve the profession, and to positively influence the health of society.
Excellence	Excellence in the provision of physical therapist services occurs when the physical therapist and physical therapist assistant consistently use current knowledge and skills while understanding personal limits, integrate the patient or client perspective, embrace advancement, and challenge mediocrity.
Inclusion	Inclusion occurs when the physical therapist and physical therapist assistant create a welcoming and equitable environment for all. Physical therapists and physical therapist assistants are inclusive when they commit to providing a safe space, elevating diverse and minority voices, acknowledging personal biases that may impact patient care, and taking a position of anti-discrimination.
Integrity	Integrity is steadfast adherence to high ethical principles or standards, being truthful, ensuring fairness, following through on commitments, and verbalizing to others the rationale for actions.
Social Responsibility	Social responsibility is the promotion of a mutual trust between the profession and the larger public that necessitates responding to societal needs for health and wellness.

The APTACV has remained consistent in time apart from the added value of "Inclusion" in the 2021 Core Values amendment by the APTA House of Delegates and Board of Directors. ²⁸⁻³⁰ This addition followed a societal movement which brought diversity, equity, and inclusion to the forefront of organizational values and practices. The APTA continues to promote the PPTCVSA tool, despite the gap in consistency with the APTACV, until a new assessment can be formulated to capture "Inclusion" and corresponding professional behaviors. ²⁷ Many studies have utilized the PPTCVSA as a means of capturing components of professionalism among students, though reliability of

the tool is questionable and not all components of the tool apply directly to students.³¹⁻³²
The PPTCVSA has been sparsely studied among practitioners and is lacking longitudinal support for relevance to professional identify formation.³³⁻³⁴

The static understanding of values within PT contrasts the evolution of excellence in physical therapist education. The need for a contemporary understanding of values within PT is paramount as they are a foundational component of professional identity formation functioning across academic education and clinical practice.

Theoretical Framework

Values are a psychosocial construct informed by beliefs and related to attitudes and actions. Schwartz defines values as "conceptions of the desirable that guide the way social actors (e.g., organizational leaders, policymakers, individual persons) select actions, evaluate people and events, and explain their actions and evaluations." A contemporary definition defines values as "personally or socially desirable beliefs that go beyond specific situations and guide people's behavior." Spranger's authorship of "Types of Men" inspired the *Study of Values* instrument in 1931, one of the earliest known values assessments. Clawson then defined 128 distinct values while Morris distilled values to specific types. Rokeach defined values as terminal values (goals) and instrumental values (modes of conduct). He theorized values were not present or absent in individuals but ordered by relative importance, thereby directing individual actions and behaviors.

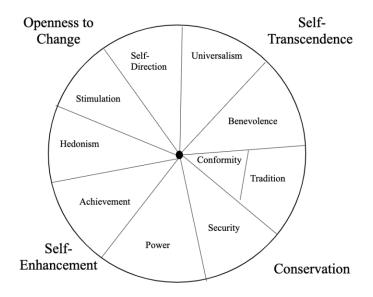
Schwartz and Bilsky built upon Rokeach's work in developing the Basic Human Values Theory.⁴¹ They favored a definition of values where the construct is focused on the motivational goal embodied by each value.⁴² A system of ten values was proposed

and validated cross culturally.⁴³ After further refining, nineteen values were determined to be present across individuals within all cultures, though values were prioritized in varying orders of importance (Table 2).⁴⁴ The circular organization of values within this integrated system allowed values to oppose or complement one another within their hierarchical ordering (Figure 3). Basic Human Values Theory is a theoretical framework utilized across various populations and cultures studying individual and societal values.⁴⁵ It has also been applied to health professionals and health professions students, determining values profiles and variations in values.⁴⁶⁻⁴⁸

Table 2: Basic Human Values Theory: Categories and Definitions ¹²						
Higher Order Values	10-Value Profile (Item Numbers)	10-Value Profile Definitions	19-Value Profile (Item Numbers)	19-Value Profile Definitions		
	Benevolence	Preservation and enhancement of the welfare	Benevolence Dependability (19,27,55)	Being a reliable and trustworthy member of the in- group		
	(11,25,47,19,27,55)	of people with whom one is in frequent personal contact	Benevolence Caring (11,25,47)	Devotion to the welfare of ingroup members		
SELF- TRANSCENDENCE	Universalism (8,21,45,5,37,52, 14,34,57)		Universalism Tolerance (14,34,57)	Acceptance and understanding of those who are different from oneself		
		Understanding, appreciation, tolerance, and protection for the welfare of all people and of nature	Universalism Concern (5,37,52)	Commitment to equality, justice, and protection for all people		
			Universalism Nature (8,21,45)	Preservation of the natural environment		
CONSERVATION	Conformity (15,31,42,4,22,51)	The restraint of actions, inclinations, and impulses that are likely to upset or harm others and violate social expectations or norms	Conformity Interpersonal (4,22,51)	Avoidance of upsetting or harming other people		
			Conformity Rules (15,31,42)	Compliance with rules, laws, and formal obligations		
	Tradition (18,33,40,7,38,54)	Respect, commitment, and acceptance of the customs	Humility (7,38,54)	Recognizing one's insignificance in the larger scheme of things		
		and ideas that traditional culture or religion provides	Tradition (18,33,40)	Maintaining and preserving cultural, family, or religious traditions		
	Security (13,26,53,2,35,50)	Safety, harmony, and stability of society, relationships, and self	Security Societal (2,35,50)	Safety and stability in the wider society		
			Security Personal (13,26,53)	Safety in one's immediate environment		
			Face (9,24,49)	Security and power through maintaining one's public image and avoiding humiliation		

	Power	Control or dominance over people and resources	Power Resources (12,20,44)	Power through control of material and social resources	
SELF-	(6,29,41,12,20,44)		Power Dominance (6,29,41)	Power through exercising control over people	
ENHANCEMENT	Achievement (17,32,48)	Personal success through demonstrating competence according to social standards	Achievement (17,32,48)	Personal success through demonstrating competence according to social standards	
	Hedonism (3,36,46)	Pleasure and sensuous gratification for oneself	Hedonism (3,36,46)	Pleasure and sensuous gratification for oneself	
	Stimulation (10,28,43)	Excitement, novelty, and challenge in life	Stimulation (10,28,43)	Excitement, novelty, and challenge in life	
OPENNESS TO CHANGE	Self-Direction	Independent thought and action, choosing, creating, and exploring	Self-Direction Action (16,30,56)	The freedom to determine one's own actions	
	(1,23,39,16,30,56)		Self-Direction Thought (1,23,39)	The freedom to cultivate one's own ideas and abilities	

Figure 3: Visual depiction of Basic Human values.⁴⁵



Social values systems differ from individual values and are associated with worldviews and ideologies.³⁶ Rohan suggests that there is an "inescapable link" between a person's values and the way they view and interact with the world.⁴³ As such, worldviews and ideologies often highlight components of individual values and apply

them at length to societal practices and situations.³⁵ Organizational values, an extension of social values, are closely tied to organizational culture and are typically shared by its members.³⁶ Within organizational values, there are diverse classification schemes, though most broadly, values are classified into explicit (i.e.: published values statements, core values) and implicit (i.e.: cultural values, lived values) values categories.³⁶ Incongruencies can occur when organizational values misalign with individually held values or when change results in value shifts at the organizational level.⁴⁹

The potential conflict caused by values dissonance requires organizations to promote values congruity through homogenization. Values homogenization within organizations occurs through two primary means; selection of members and socialization. Through values socialization, the transmission of values to members, organizations move espoused explicit values to lived implicit values to create a unified culture capable of achieving its mission and vision. Moyo et al notes that while certain values of new members in an organization may be congruent, others are modifiable allowing the individual to achieve a new role and identity. This melding of personal and organizational values occurs in many settings, including healthcare and PT.

Problem

The recent integration of advancing educational frameworks from the amalgamation of scholarly work from the *National Study of Excellence and Innovation in Physical Therapist Education* and *A Vision for Excellence in Physical Therapist Education* to the *Excellence Framework for PT Education* and the Center for Excellence in Academic Physical Therapy has place a renewed emphasis on shared values, cultural values, and the development of values integral to professional identity formation and which impact

clinical practice. ¹⁷⁻²⁰ The complexity of the values construct leads to an elusive understanding of values within the context of PT. Thus, the current schema for understanding, imparting and living values within PT is an incomplete foundation that may be limiting the process of professional identity formation and professional socialization.

There is not a contemporary and empirical understanding of values within clinical practice or academic preparation within the profession of PT. Values research within PT has not been synthesized, individual values have not been assessed in nearly two decades, and it is unknown if entry-level Doctor of Physical Therapy (DPT) academic program values align with professional values or recent constructs of educational excellence.

Purpose

This hybrid, multi-manuscript dissertation intends to explore values in PT practice and education by a review of published literature specific to values and PT, an exploration of individual values of PT practitioners from the lens of the Basic Human Values Theory, and a synthesis of academic program values within the context of academic program culture and organizational values.

Study 1: Values in Physical Therapy: A Scoping Review

Aim: Synthesize values literature published within PT through a scoping review

Hypothesis: The APTA Core Values for the Physical Therapist and Physical Therapist Assistant is the primary values construct utilized within PT primarily within the context of educational programs.

Study 2: The Basic Human Values of Physical Therapists: A Cross-Sectional Survey Using the PVQ-RR

Aim: Determine the general values profile of a randomized sample of physical therapists across the United States while exploring sub-profiles associated with demographic and practice-specific variables.

Hypothesis: A general values profile is present among physical therapists, though differences exist based on demographic and practice-specific factors.

Study 3: Physical Therapist Academic Program Values: A Thematic Coding of Mission and Vision Statements

Aim: Explore the missions and visions of a representative sample of entry-level, DPT academic programs to determine if there are common values and values groupings consistent with contemporary literature for excellence in physical therapist education and the APTACV.

Hypothesis: Certain constructs are commonly valued by entry-level, DPT academic programs though diversity in values is also present.

The next three chapters of this dissertation consist of individual manuscripts crafted for submission to a professional journal. Chapter 2: Values in Physical Therapy: A Scoping Review is submitted to the Journal of Physical Therapy Education. Chapter 3: The Basic Human Values of Physical Therapists: A Cross-Sectional Survey Using the PVQ-RR is submitted to Physical Therapy (PTJ) and Chapter 4: Physical Therapist Academic Program Values: A Thematic Coding of Mission and Vision Statements is

submitted to the Journal of Allied Health. Chapter 5 will conclude the hybrid, multimanuscript dissertation with a summary of findings, discussion, and conclusion.

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Chapter 2

Values in Physical Therapy: A Scoping Review

ABSTRACT

Background and Purpose: Values serve as a guiding schema for behaviors, attitudes, and beliefs. Professional values are promoted by a profession to be congruent with desired behaviors and dispositions. Professional values in physical therapy developed over time, most notably with the APTA Core Values for Physical Therapists and Physical Therapist Assistant (APTACV). A renewed call to equity and inclusion spotlights values within physical therapy education with the Excellence and Innovation in Physical Therapy Education framework emphasizing shared values. However, there is not a contemporary understanding of values within the profession.

Methods: A comprehensive literature search was implemented with inclusion of peer-reviewed studies related to physical therapy, values as a construct, and professional identity formation. Of the 634 returned titles, 31 full-text articles met inclusion criteria. Studies were grouped according to design and assessed for quality using the Mixed Method Appraisal Tool. Methods, results, and outcomes were extracted from each study.

Results: Sixteen of thirty-one studies utilized the APTACV or Core Values Self-Assessment Tool, most with non-randomized designs with varied results. Several studies supported values and behaviors congruent with the APTACV with some variation.

Qualitative studies identify values as a component of professional identify formation and encourage intentional clinical and didactic learning experiences for values formation. Of

the six studies involving practicing physical therapists, only one study examined personal values of physical therapists and found differences based on gender and age.

Discussion and Conclusion: Most studies assessed values among physical therapy students with limited knowledge of practicing therapists' values. A variety of study designs suggest that educational interventions can promote value formation in students. It is unclear if values focused interventions reach beyond education to practice and if values are sustained. There is a need for further assessment and understanding of values followed by instructional methods promoting values formation that meet the needs of physical therapists and society.

Keywords: Physical therapy, values, professional identity formation, professionalism, education

Values in Physical Therapy: A Scoping Review

Background and Purpose

Professional identity formation for physical therapists includes the shaping of individual values, expression of professional values, and integration of values in both academic and clinical environments. Within the Vision for Excellence in Physical Therapy Education and American Council for Academic Physical Therapy Excellence Framework for Physical Therapist Education, formation of the individual physical therapist centers on educational cultures which instill shared values of motivation, continuous improvement, adaptability, leadership, authenticity, collaboration, inclusivity, and responsiveness. Values are a principal component of professional identity formation supporting attitudes, behaviors, and dispositions and are now highlighted through robust educational structures and reforms. ^{2,3}

Values are a superordinate intrapsychic structure that "occupy central positions in cognitive networks of attitudes and beliefs" and are associated with the affective domain.⁴ In a professionalism framework, mission and vision statements inform values and beliefs by informing actions and specific behaviors.^{5,6} These constructs, while broad, serve as guides for interactions and behaviors of the physical therapist. The professional domain of values developed out of frameworks for ethical practice in the late 1990s and early 2000s.⁷ Components of this domain include mission and values statements, organizational goals, ethical guidelines, and practice standards that support high-quality, individualized healthcare delivery from holistic clinicians.⁸

Literature exploring values within physical therapy across the individual, professional, and educational domains is sparse. Since its adoption nearly 20 years ago,

the American Physical Therapy Association Core Values for the Physical Therapist and Physical Therapist Assistant (APTACV) outlines "values that guide behavior" in the profession, though it is unclear if these are universally embraced by clinicians or are adequate to meet the current needs of society and stakeholders. 9,10 This gap in the understanding of values may pose a disconnect between the intent of the academic professional identity formation process and the actual values present among clinicians. As Davis wrote in 1981, "Values clarification helps to achieve educational objectives of raising consciousness and building commitment to action with fuller awareness." This "enlightened commitment to action" is a priority as the profession continues to evolve and move forward with its unequivocal stance to address systemic racism and issues of diversity, equity, and inclusion within the profession. "Inclusion" was intentionally added to the APTACV in 2021, further supports the need for curricular reform and value formation within the profession and academic preparation for the future of the workforce in creating a welcoming and equitable environment for all. 12,13

This study's purpose is to conduct a scoping review of values in physical therapy.

The intended outcome is to further inform the processes of value formation in physical therapy education and professional identity formation.

Methods

This scoping review is registered via OSF Registries and utilizes the PRISMA Scoping Review toolkit as a framework and guide. 14,15

Search parameters for year of publication spanned the full available date range for each search engine and utilized the following databases: PubMed, Medline, Biosis: Web of Science, CINAHL, and ProQuest Nursing and Allied Health Database. The search was conducted on February 26, 2022 and repeated on September 8, 2022.

Search strategies leveraged the terms ("physical therapy" OR "physiotherapy")

AND ("professional value*" OR "core value*" OR "basic value*" OR "individual

value*" OR "personal value*" OR "organizational value*" OR "theoretical value*" OR

"professional formation" OR "professional identity formation"). A fully detailed search

strategy including limiting factors can be found in Appendix A.

Articles were included if they pertained primarily to physical therapy and included one or more of the following: a) theoretical concepts related to values or values formation, b) assessment of individual, professional, or organizational values, c) examination of professional competencies or behaviors, d) professional formation or professional identity formation. Duplications were removed after the 634 article titles were screened for eligibility by two investigators. Abstracts were then screened with a third author acting as a tiebreaker in instances of disagreement. The kappa score for abstract agreement was 0.77. Full text articles were screened by two authors with the following inclusion criteria: a) published in English, b) qualitative or quantitative study design published in an academic journal, c) Values as a primary outcome or theoretical construct or the psychometric properties of a values assessment (Figure 1). Kappa for full text agreement was 0.36 with 31 full-text articles retained for data extraction. The search process was reiterated on September 8, 2022 to capture any additional publications. Nineteen titles were identified while four abstracts were screened, and three full text manuscripts were reviewed. None met inclusion criteria as two were perspective papers and one did not examine values as an outcome or construct.

Characteristics for full-text articles meeting selection criteria were extracted including authors, year of publication, study design, participant characteristics, study setting, and relevant tool(s) or outcome(s) utilized (Table 1). Primary and secondary outcomes were charted according to study design and synthesized below.

Due to the broad nature of study designs, the Mixed Methods Appraisal Tool (MMAT) was selected to assess the quality of included manuscripts. ¹⁶ This tool allows for assessment of qualitative, quantitative randomized controlled trials, quantitative non-randomized, quantitative descriptive and mixed method studies. Five specific criteria are scored within each study design after affirmative answers to the following: "Are there clear research questions?" and "Do the collected data allow to address the research question?" (Table 2). Specific qualitative questions for each study design are then answered "yes," "no," or "can't tell" if reporting by the article is insufficient or unclear. The MMAT does not assess bias in articles but is intended to be descriptive in areas of study weakness or ambiguity.

Data were grouped and compiled by study design with relevant outcomes reporting of values-related data. Population characteristics, statistical analysis, and primary and secondary outcomes were extracted from each study with corresponding significance values.

Results

Included studies and study characteristics:

Thirty-one articles were included in analysis, ranging in publication date from 2005 to 2019 (Figure 1). Of the articles, 15 were qualitative, 10 were quantitative and 6

were mixed methodology (Table 1). Twenty studies included physical therapy students as subjects, eight included licensed physical therapists, and six included physical therapy faculty or clinical instructors. Four studies were multidisciplinary but included physical therapists or physical therapy students. 16 studies explicitly utilized the APTACV as a framework or the Physical Therapy Core Values Self-Assessment Tool (PPTCVSA). 9,10 Other tools included the Professional Behaviors Assessment, Comprehensive Professional Behavior Development Log, Professional Assessment Tool, and Schwartz Values Survey. Most studies were based in the United States, though there were three studies from Canada and one from South Africa and Australia. All interventional studies were academic, with classroom learning, service learning, and community-based learning as the primary interventions.

Figure 1: Selection of sources of evidence

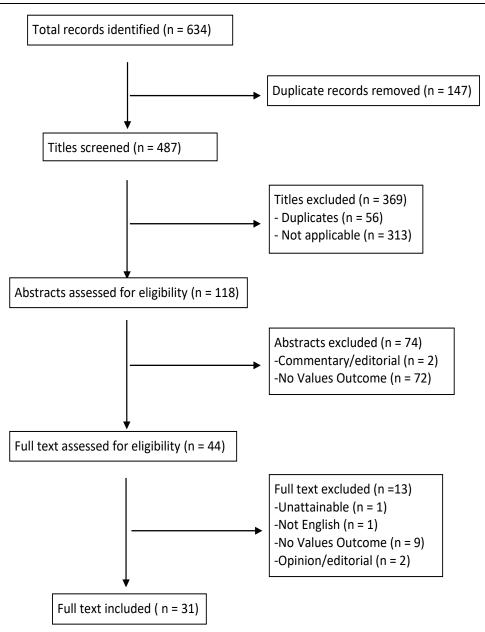


Table 1: Characteristics of Included Studies						
Qualitative	Study Design	Participants	Sample Size	Setting	Intervention	Relevant Tool or Outcome
Aguilar et al (2013)	1) Structured interview 2) Delphi	1) PTs, OTs 2) PTs, OTs	1) N=14, N=15 2) N=94, N=68	Academic and Clinical	n/a	Professional Values

Borstad et al (2018)	Qualitative content analysis of written reflections	PT students	N=21	Ohio State University DPT program	International service learning	APTA Core Values
Dutton & Sellheim (2014)	Focus group	PT students	N=28	3 Mid-western DPT programs	n/a	APTA Core Values
Furze et al (2011)	Reflection questionnaire, Focus group	PT students	N=39	Creighton University	Community outreach program	Reflection Questionnaire
Grace & Trede (2013)	1) Focus group 2) Interview	PT students and dietetic students, instructors	1) N=28 2) N=12, 12, 4	Southern Cross University, Australia	n/a	Professionalism
Grignon et al (2014)	Qualitative content analysis	PT program directors	N=75	PT programs in the United States	n/a	Graduate Outcomes
Hayward et al (2006)	Pilot model/Theoret ical framework	PT students	N=17	Northwest-ern University	Standardized patients with community of practice	Practical Examination, Professional Behaviors, Student Reflection Papers
Hudon et al (2019)	Semi- structured interview (Interpretive description)	PTs, PT technicians, PT administrators	N=40 (27, 3, 10)	Canadian clinics; worker's compensation	n/a	Professional Values
Jensen et al* (2017)	Multiple, qualitative case study design	PT programs, PT clinics	N=11 (6,5)	Academic and Clinical sites in the United States	n/a	Educational Model
Lucy et al (2019)	Nominal group technique and Delphi	PT graduates, clinical instructors or leaders, faculty	N=9 (3, 2, 4)	University of Western Ontario, Canada	n/a	Comprehensive Professional Behaviors Development Log
McGinnins et al (2016)	Interview with thematic content analysis	PTs	N=20	New Jersey, New York, Pennsylvania, Delaware	n/a	APTA Core Values
Sonday (2021)	Interview and focus group with descriptive qualitative design	PT students, OT students or SLP students	N=7	University of Cape Town, South Africa	n/a	Professional Identity
Stickler et al (2013)	Focus group and semi- structured interview	PT students	N=16	Grand Valley State University	Pro bono clinic participation	APTA Core Values

Wormley et al (2019)	Semi- structured interview	PT students	N=27	Sacred Heart University	Modified Problem Based Learning Curriculum	APTA Core Values
*Jensen et al (Part of continuity	1-Design, Method	l and Results) and	Jensen et al (Part	2-A Call to Refor	m) were combined	I for the purpose
Quantitative Randomized Control Trial	Design	Participants	Sample Size	Setting	Intervention	Tool/Outcome
Riopel et al (2018)	Pre-post assessment	PT students	N=12	Private University in NE United States (Kean University)	Verbal feedback and MSPSQ* vs MSPSQ only on standardized patient cases	Professional Behavior Assessment, APTA Core Values, MSPSQ
*Modified Standar	dized Patient Sati	sfaction Question	naire (MSPSQ)	1	1.4	1
Quantitative Non-Randomized Studies	Design	Participants	Sample Size	Setting	Intervention	Tool/Outcome
Anderson & Irwin (2013)	Pre-post assessment	PT students	N=43	Midwestern University	30 Weeks of Clinical Education	APTA Core Values
Becker et al (2017)	Survey	PT students, PT faculty/staff	N=73, 13	University of Iowa	1 semester, 3 years	Professional- ism Assessment Tool
Wise and Yuen (2013)	Time series: pre-mid and post	PT students	N=54	Medical University of South Carolina	Classroom learning, community- based health presentation	APTA Core Values
	•	•	•		•	•
Quantitative Descriptive	Design	Participants	Sample Size	Setting	Independent Variable	Tool/Outcome
Anderson & Hall (2018)	1) Test-retest 2) Test-retest	PT students	1) N=274 2) N=30	Midwestern University	1) Clinical Rotation 2) 1 Week of Coursework	APTA Core Values
Denton et al (2015)	Cross sectional survey	PT students	N=52	University of the Incarnate Word	n/a	APTA Core Values
Denton et al (2017)	Test-retest	PT students	N=96	University of the Incarnate Word	1 Week of Coursework	APTA Core Values
Furgal et al (2018)	Test-retest	PT students	N=29	Western Kentucky University	2 Weeks of Coursework	APTA Core Values
Lee et al (2012)	Cross sectional survey	PTs	N=55	APTA members	International Experience	APTA Core Values

Nosse & Sagiv (2005)	Cross sectional survey	PTs	N=565	Members of Wisconsin Physical Therapy Assn.	n/a	Modified Schwartz Values Survey
Mixed Method	Di	D-4:-:4-	Sample Size	G-#:	Intervention	Tool/Outcome
	Design	Participants	•	Setting		
Boyczuk et al (2019)	1) Scoping review 2) Cross sectional survey	1) n/a 2) PTs, PT students, other*	1) 10 articles, 152 websites 2) N=88	1) n/a 2) Canadian CPA Congress Attendees	1) n/a 2) n/a	Professional Core Values
Crandell et al (2013)	Interview, reflection and survey	PT students	N=9	Bellarmine University	Off Campus Service Learning	APTA Core Values
Hayward & Blackmer (2010)	1) Pre-post 2) Post with reflection	1) PT students 2) PT students, clinical instructors	1) N=47 2) N=12, 8	Northeastern University	1) Standard- ized patient intervention 2) 8 weeks clinical education	1) APTA Core Values, WS-Ei 2) APTA Core Values, Reflection Papers
Hayward and Charrette (2012)	Reflection and survey (Pre- post)	PT students	N=28	Northeastern University	International Service Learning	APTA Core Values, CCAI
Stickley et al (2017)	1) Quasi- Delphi 2) Survey	1) PT faculty 2) Health science faculty	1) N=10 2) N=113	Texas State University	n/a	Academic Faculty Professional Behavior Assessment
Thomas et al (2019)	1) Cross match 2) Survey	1) n/a 2) Orthopedic Post- professional graduates	1) n/a 2) N=118	n/a	1) n/a 2) Completed Post- professional Orthopedic Manual PT Education	APTA Core Values
	*Includes PT stakeholders and retired PTs, Workplace Self-Efficacy Inventory (WS-Ei), Cross Cultural Adaptability Inventory (CCAI)					

Physical Therapy (PT), Physical Therapists (PTs). Doctor of Physical Therapy (DPT), Occupational Therapy (OT), Occupational Therapists (OTs)

Quality Assessment

For qualitative articles, one study was deemed to not have adequate data collection methods to answer the research question with all other studies having sound methodology and clear research questions (Table 2).¹⁷ The only randomized control trial

was found to have sound methodology despite a small sample size limiting power (n=12).¹⁸ Of the quantitative non-randomized control trials, all studies lacked some components of clarity regarding methodology including unclear confounding influences, non-representative samples, or lack of appropriate measures and outcomes.^{19,20,21} The quantitative descriptive studies had samples that were not representative of the target population in four of the six included studies.^{22,23,24} One study lacked clear research questions and data collection.²⁵ Of the mixed method studies included, all appeared to have sound methodology though one lacked rationale for design and failed to describe differences among qualitative and quantitative results.²⁶

Table 2: Quality Assessment of Included Studies							
Qualitative	S1	S2	1.1	1.2	1.3	1.4	1.5
Aguilar et al (2013)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borstad et al (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dutton & Sellheim (2014)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Furze et al (2011)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Grace & Trede (2013)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Grignon et al (2014)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hayward et al (2006)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hudon et al (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Jensen et al* (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lucy et al (2019)	Yes	Yes	Yes	No	Yes	Yes	Yes
McGinnins et al (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sunday (2021)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stickler et al (2013)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wormley et al (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	S1 Are there clear research questions? S2 Do the collected data allow to address the research questions? 1.1 Is the qualitative approach appropriate to answer the research question? 1.2 Are the qualitative data collection methods adequate to address the research question? 1.3 Are the findings adequately derived from the data? 1.4 Is the interpretation of results sufficiently substantiated by data? 1.5 Is there coherence between qualitative data sources, collection, analysis and interpretation?						

Quantitative							
Randomized Control Trial	S1	S2	2.1	2.2	2.3	2.4	2.5
Riopel et al (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	S1 Are there questions? 2 baseline? 2.2	e clear research 1.1 Is randomized 3 Are there co	h questions? S zation appropr mplete outcon Did the partic	2 Do the colleriately perform ne data? 2.4 A	ected data allowed? 2.2 Are the coutcome as	w to address the groups comsessors blinde	he research parable at d to the
Quantitative Non- Randomized Control Trial	S1	S2	3.1	3.2	3.3	3.4	3.5
Anderson & Irwin (2013)	Yes	Yes	Yes	Yes	Yes	Can't Tell	Yes
Becker et al (2017)	Yes	Yes	Can't Tell	Yes	Yes	Yes	Yes
Wise and Yuen (2013)	Yes	Yes	Yes	Yes	No	Yes	Yes
	questions? 3 measurementhere comple	1.1 Are the parts appropriate ete outcome d 5 During the s	th questions? Softicipants represented regarding both ata? 3.4 Are that tudy period, is	esentative of the the outcome confounders the intervention	ne target popule and intervents accounted for on administer	lation? 3.2 Arction (or exposite in the design	e are)? 3.3 Are and
Quantitative Descriptive	S1	S2	4.1	4.2	4.3	4.4	4.5
Anderson & Hall (2018)	Yes	Yes	Yes	No	Yes	Yes	Yes
Denton et al (2015)	Can't Tell	Can't Tell					
Denton et al (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Furgal et al (2018)	Yes	Yes	Yes	No	Yes	Yes	Yes
Lee et al (2012)	Yes	Yes	Can't Tell	No	Yes	Yes	Yes
Nosse & Sagiv (2005)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	S1 Are there clear research questions? S2 Do the collected data allow to address the research questions? 4.1 Is the sampling strategy relevant to address the research question? 4.2 Is the sample representative of the target population? 4.3 Are the measurements appropriate? 4.4 If the risk of nonresponse bias low? 4.5 Is the statistical analysis appropriate to answer the research question?						4.2 Is the riate? 4.4 Is
Mixed Method	S1	S2	5.1	5.2	5.3	5.4	5.5
Boyczuk et al (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Crandell et al (2013)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hayward & Blackmer (2010)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hayward and Charrette (2012)	Yes	Yes	No	Yes	Yes	No	Yes
Stickley et al (2017)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Thomas et al (2019)	Yes	Yes	Yes	Yes	Yes	Yes	Yes

S1 Are there clear research questions? S2 Do the collected data allow to address the research
questions? 5.1 Is there an adequate rationale for using a mixed methods design to address the
research question? 5.2 Are the different components of the study effectively integrated to
answer the research question? 5.3 Are the outputs of the integration of qualitative and
quantitative components adequately interpreted? 5.4 Are divergences and inconsistencies
between quantitative and qualitative results adequately addressed? 5.5 Do the different
components of the study adhere to the quality criteria of each tradition of the methods
involved?

^{*}Jensen et al (Part 1-Design, Method and Results) and Jensen et al (Part 2-A Call to Reform) were combined for the purpose of continuity during quality assessment

Results of Studies

Professional Values

Physical therapists' values have been assessed across multiple study designs (Table 3). A Delphi by Augilar suggests that therapists value physical functioning in a biopsychosocial framework across multiple domains that encompass relationships, ethics, beliefs, philanthropic practice, and professionalism.²⁷ Similar findings occurred in a review and survey by Boyczuk identifying values of accountability, advocacy, altruism, compassion/caring, equity, excellence, integrity, patient/client centeredness, respect, and social responsibility paralleling the APTACV. 9,28 Among physical therapists who completed orthopedic residency programs, authors identified the additional value subset of "recognition" within a compressed 25-item version of the PPTCVSA.²⁹ In the context of workers compensation, Canadian physical therapists grouped values most relevant to their practice in terms of equity, competence, and professional autonomy.³⁰ When exploring individual values using the Schwartz Values Survey, Nosse and Sagiv found uniformity among physical therapists when rating benevolence, self-direction, conformity, tradition, and power.³¹ Younger physical therapists valued hedonism, stimulation, and achievement while their older counterparts highly endorsed the values of security and universalism.

Table 3: Results of Included Studies					
Qualitative Studies	Summary/Results				
Aguilar et al (2013)	Physical therapists value physical functioning in a biopsychosocial framework and categorize values by relationships, ethics, beliefs, philanthropy and professionalism				
Borstad et al (2018)	High level values statements were found in mos international service learning	t physical therapy student reflections following			
Dutton & Sellheim (2014)	therapy students	struction impacted professional values of physical			
Furze et al (2011)	Students participating in community engagement exposure, awareness of others and professional to	t result in greater self-awareness and, with repeated transformation including values formation			
Grace & Trede (2013)		re informed and modified by both formal and informal foundation while role models, individual reflection and			
Grignon et al (2014)	Core Values)	have themes that overlap professional values (APTA			
Hayward et al (2006)	The standardized patient community of practice and specific direction of behaviors and skills	model (SP-CoP) led to professional values discussion			
Hudon et al (2019)	equity, competence and professional autonomy	n field grouped relevant values into three categories;			
Jensen et al* (2017)	A culture of excellence in physical therapy education includes shared beliefs and values, leadership and vision, drive for excellence with high expectations, partnership which inform the nexus and praxis of learning and require organizational structures and resources as supports				
Lucy et al (2019)		ment Log is congruent with many professional values			
McGinnins et al (2016)	Personal values are a foundation for professiona therapy students recognizing areas of strength at	l values and are shaped by experiences with physical nd weakness in developing specific values			
Sonday (2021)	including professional values	professional environments shape professional identity			
Stickler et al (2013)	Physical therapist student participation in pro bo values, clinical skills, personal growth and com	ono services leads to development of professional munity and professional connections			
Wormley et al (2019)	Patient cases, tutorial format and faculty role mo curriculum leads to professional core values dev				
Randomized Controlled Trial	Summary	Primary Results			
Riopel et al (2018)	Verbal feedback in addition to use of the Modified Standard Patient Satisfaction Questionnaire had no impact on physical therapy students PPTCVSA score	No significant difference between groups (p>.05)			
Quantitative Non- Randomized Control Trial	Summary	Primary Results			
Anderson & Irwin (2013)	30 weeks of clinical education resulted in significant increase in PPTCVSA score among physical therapy students with differences observed in subcategories between male and female students and among older students	Increase in overall mean score (246.67 to 297.88 p<.05)			
Becker et al (2017)	There was no difference in physical therapy students' self-assessment using the Professionalism Assessment Tool at 1 year or 3 years though perceptions of the professionalism of others increased	No change in students' self-assessment (p>.05), improvement in student peer-assessment (p<.05)			

Wise and Yuen (2013)	Community based service learning led to a significant increase in PPTCVSA sub-scales (altruism, compassion/caring, integrity) among physical therapy students	Positive mean change in altruism (1.40, p<.05)), compassion/caring (1.17, P<.05) and integrity (2.06, p<.05) following CBSL			
Quantitative Descriptive	Tool/Outcomes	Results			
Anderson & Hall (2018)	PPTCVSA among physical therapy students 1) Internal consistency 2) Reliability 3) SEM 4) MDC	 Cronbach's α = 0.97 with sub-scales 0.69-0.94 ICC 0.90 [CI 0.78-0.95], sub-scales ≥ 0.65 [CI 0.23-0.94], SEM 5.4 with sub-scales 1.57-3.39, MDC₉₅ 15 points with sub-scales 4-9 points 			
Denton et al (2015)	PPTCVSA among physical therapy students; societal outreach subscale (SOS) Construct Validity	15 Item SOS: Cronbach's α .917, p<.001 14 Item SOS: Cronbach's α .926, p<.001			
Denton et al (2017)	PPTCVSA among physical therapy students 1) Reliability 2) Internal consistency	1) ICC first-year students 0.63 with sub-scales .5269, second-year students 0.80 with sub-scales .5381 2) Cronbach's $\alpha = 0.95$ 97 with sub-scales 0.71-0.93			
Furgal et al (2018)	PPTCVSA among physical therapy students 1) Reliability 2) SEM 3) MDC	1) ICC sub-scales 0.63-0.82 [CI6817] (p<.05 for altruism, excellence and social responsibility) 2) SEM sub-scales 0.30-0.62 3) MDC ₉₅ sub-scales 0.83-1.71			
Lee et al (2012)	PPTCVSA among physical therapists 1) Mean difference 2) Reliability 3) Internal consistency 4) Correlation to IAPCC-R	1) t = -3.59, p>.05 2) ICC 0.91 3) Cronbach's α = 0.91 4) r = 0.77, sub-groups 0.17 (p>.05) and 0.63 (p<.001)*			
Nosse & Sagiv (2005)	Schwartz Values Survey among physical therapists 1) Rank Order 2) Between group ANOVA 3) Mann-Whitney 2-group comparison	1) Benevolence (1/10), power (10/10) 2) Benevolence, self-direction, conformity, tradition and power (p>.05) indicating no difference between age associated groups 3) Young group rated hedonism (z=-3.26 and -6.64), stimulation (z=-3.23 and -4.15) and achievement (z=-3.91 and -4.06) higher (p<.05) compared to middle and oldest group, oldest group rated security (z=-3.35 and -3.02) and universalism (z=-4.13) higher (p<.05) than both young and middle groups			
Mixed Method	Summary/Results				
Boyczuk et al (2019)		l therapists resulted in 10 common professional values: /caring, equity, excellence, integrity, patient/client			
Crandell et al (2013)	Physical therapy students most commonly mention the values of compassion and caring followed by accountability and excellence in reflection with mean scores between 4.07 - 4.61 ± 0.54 - 1.07 on the PPTCVSA following off-campus service learning				
Hayward & Blackmer (2010)		ts following standardized patient intervention while a ibility and altruism occurred following 8 weeks of			

Hayward and Charrette (2012)	Physical therapy students anticipated changes in professional role formation, career development, cultural readiness and collaboration following international service learning (ISL) with a significant increase in PPTCVSA scores following ISL
Stickley et al (2017)	154 total professional behaviors were identified among health professions including physical therapists with 46 unique behavior categories
Thomas et al (2019)	Consolidation of the PPTCVSA resulted in a 25-item tool with the additional subcategory of recognition with an average score of 3.37-4.71 on modified PPTCVSA sub-scales among physical therapists completing an orthopedic residency

^{*}Jensen et al (Part 1-Design, Method and Results) and Jensen et al (Part 2-A Call to Reform) were combined for the purpose of continuity during quality assessment

Values Formation

Individual values were determined to be the foundation for professional values formation among students with positive values change resulting from formal and informal educational experiences through implicit and explicit curricular models. 32,33 Similarly, immersion in clinical and professional environments was influential for professional identity and values formation. Professional role models were shown to have a significant impact on values formation as students recognize values in others and explore their own values through reflection and discussion. 34,35 Grignon found that physical therapy program outcomes have themes overlapping professional values as defined by the APTACV, and Jensen et al include shared beliefs and values as a component of the culture of excellence in physical therapy education. 1,36,37

Tools for Values Assessment

The most used tool to assess professional values was the PPTCVSA which, when studied among physical therapy students, was found to have variable psychometric qualities though no studies examined construct or content validity. Studies indicated strong internal consistency with Cronbach's alpha > 0.9 across all studies, variable reliability (ICC 0.52-0.91), variable SEM for sub-scale items (0.30-3.39) and an overall SEM reported by only one study at 5.4.^{22,23,25,38} MDC was found to be 15 points with sub-

scales between 4-9 points with an additional study reporting MDC at 0.83-1.17 points for individual behaviors.^{22,25} Among practicing physical therapists, the PPTCVSA was found to have good reliability and internal consistency (ICC 0.91 and Cronbach's alpha 0.91) though MDC and SEM were not reported.²⁴

Other outcome tools utilized across studies relate heavily to behavior. Stickley identified 46 unique professional behaviors among allied health professionals including physical therapists, many of which correlate to the APTACV and PPTCVSA sample behaviors.³⁹ The Comprehensive Behavior Development Log was found to be congruent with many professional values, and the Professionalism Assessment Tool, while overlapping with many professional values, found no change among physical therapy student self-assessments from year one to year three of their education.^{17,21}

Impact of Interventions on Values

Educational interventions found to influence values formation among physical therapy students in qualitative designs included service learning, community engagement, and pro-bono clinical practice. 40,41,42 A study by Hayward and Charette demonstrated multiple positive associations with international service learning with results indicating an overall increase in the PPTCVSA. 26 Crandell reported high-level PPTCVSA scores after an off-campus service-learning experience, while Wise and Yuen saw a positive change in the PPTCVSA sub scales of altruism, compassion/caring, and integrity that occurred following a community-based service-learning experience among PT students. 43,21 Curricular tools that promote values formation include the standardized patient community of practice model and a modified problem-based learning curriculum which included a tutorial format with patient cases and faculty modeling. 44,45 Riopel

found that increased feedback in conjunction with the Modified Standard Patient Satisfaction Questionnaire had no effect on PPTCVSA scores after student learning with standardized patients. ¹⁸ Full-time clinical education experience was found to have an increase in overall PPTCVSA scores though Hayward and Blackmer found a decrease in the sub-scales of social responsibility and altruism following clinical learning. ^{19,46} All interventional studies utilized physical therapy students.

Discussion and Conclusion

This study aims to determine the current understanding of values within the profession of physical therapy. With only 6 studies including non-faculty, practicing physical therapists, most values research within physical therapy over the past 20 years has occurred among physical therapy students and academic faculty. There is a significant gap in the understanding of professional values and the role of instruction for values formation as a component of professional identify formation as students transition to practitioners and continue throughout their careers. Similarly, no studies assessed the values of physical therapist assistants or physical therapist assistant students, creating a chasm in the understanding of values for many who deliver physical therapy services.

The literature supports values as diverse and dynamic, with multiple studies reporting broad value categories associated with many professional behaviors. Similarly, tools used to assess and inform values are also diverse and can be used to direct specific domains of values formation, most notably, values related to social awareness and outreach. While the PPTCVSA remains the most used tool to assess values, it lacks construct and content validity with variability among other psychometric properties . 22-25,38 The PPTCVSA is self-identified as self-assessment tool to determine frequency of

value-associated behaviors and to raise "awareness about the core values." Similarly, Thomas suggests the tool is redundant and fatiguing and may benefit from revision.²⁹ With the addition of "inclusion" to the APTACV, this critique is relevant and may suggest a need for a modifiable tool that encompasses changes to values without becoming overwhelming and monotonous. The lack of distinction between practicing physical therapists or student physical therapists is an additional limitation of the PPTCVSA and while other values and professional behavior tools have been utilized, they are not specific to physical therapy. ^{17,18,31} Lastly, only one study utilized a control group and found no difference between groups of students, muddying the impact of intentional intervention. ¹⁸ In contrast, well-crafted passive educational structures may be shaping values in ways that are not measured. ³³

The included studies support values as a key component in the educational framework of physical therapists through academic and clinical instruction. Outcomes are favorable when rich learning experiences and self-reflection are paired with opportunities to practice the behaviors and dispositions. However, the lasting impact of values formation throughout physical therapy education is unclear, and its sufficiency to meet the goals of the profession as lived out in professional practice is unknown. Personal values differed among physical therapists, most notably between younger and older physical therapists, and it is likely that professional values change throughout the career of physical therapist.³¹ As Hayward and Blackmer discovered, clinical experience and exposure changed professional values as measured by the PPTCVSA both positively and negatively.⁴⁶ A question of foremost importance is how values change over years and

decades of practice? Is there professional value fatigue? How can professional values be formed and sustained across the physical therapist's professional lifecycle?

These questions may be best answered in educational structures aimed at forming the identity of individuals, not just clinical minds and hands, or values as a specific subcomponent of professionalism. Compartmentalizing values as a to-do list of behaviors fails to recognize the environments in which their expression is most meaningful and challenging; in moments of great pain, vulnerability, grief, and life-altering change among patients and their loved ones. A wealth of knowledge in this area may be gleaned from the medical and rehabilitation humanities. Irby et al describes professional identity formation as the "deepening of one's commitment to the values and dispositions of the profession into habits of mind and heart."47 Wald identifies ways in which this occurs through reflection, development of professional relationships, and resilience resulting in shared identity. Reflective writing has been shown to emphasize the "cultivation of students' intellectual, emotional, and spiritual dimensions within professional identity formation, including and valuing preexisting positive attributes."⁴⁸ Shapiro notes the greatest influence on medical student development occurs through role models who "express vulnerability, share mistakes, incorporate not-knowing; who are aware of and transparent about their emotional reactions to patients and about working on the edge between intimacy and detachment; and most importantly, acknowledge the common bonds of humanity with their patients."49 Within physical therapy, resilience can be cultivated through curricular models with characteristics including individual values and character strengths, mindfulness, gratitude, social supports, goal setting and development of a personal mission.⁵⁰ Together these interventions greatly deepen what it means to embody professional values within professional identity formation.

The foremost limitation of this review relates to the complexity of the construct of values and dynamic interplay of professionalism in the amalgamation of professional behaviors and professional identity formation. These constructs contain similar schemes but are broadly grouped, thus it is difficult to capture all literature relating to values. A second limitation is the ability to assess the quality of a vast range of study designs over multiple decades using a validated tool. While the MMAT establishes whether components are present in design for a variety of article designs, it does not provide bias assessment allowing for direct comparison. The wide publication date range also limits the generalizability of outcomes as many occurred among students with physical therapy education evolving dramatically over the 20-year span of included articles. The APTACV has also changed during that time and now includes the additional value of inclusion which was not assessed by any of the studies and does not have a corresponding assessment in the PPTCVSA.

Values are the building blocks of attitudes, behaviors, and dispositions. A variety of research methodologies have been utilized to study values in the field of physical therapy since the inception of the APTACV. Most contain appropriate methodological approaches to answer the investigative question though significant bias may be present. However, the generalizability of studies is limited as most research has occurred among small cohorts of students with no studies assessing the influence of clinician values on clinical outcomes. Similarly, most studies utilized the PPTCVSA to assess values which has not been updated since 2013, has variable reliability, and unknown construct validity.

Despite the limitations of the available research, educational interventions among students can impact values, especially interventions related to student clinical practice and service learning. Values associated with engaging society and positive affective characteristics are most often studied; societal outreach, altruism, compassion and caring. Despite this, little is known about practicing clinician's values and whether they change over time, though it is found that personal values differ among therapists by age.

Further research and a renewed understanding of values formation as a component of professional identity formation is integral as clinical and academic educators shepherd students in understanding their own values and develop professional values to serve all stakeholders of the profession.

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Appendix A: Search Strategies

PubMed: ("Physical Therapy" OR "Physiotherapy") AND ("professional value*" OR "core value*" OR "basic value*" OR "Individual value*" OR "personal value*" OR "organizational value*" OR "Theoretical value*" OR "professional formation" OR "professional identity formation")

Medline: SU (physical therapy or physiotherapy) AND ("professional value*" OR "core value*" OR "basic value*" OR "Individual value*" OR "personal value*" OR "organizational value*" OR "Theoretical value*" OR "professional formation" OR "professional identity formation")

Biosis: TS=((("physical therapy" OR "physiotherapy") AND ("professional value*" OR "core value*" OR "basic value*" OR "individual value*" OR "personal value*" OR "organizational value*" OR "theoretical value*" OR "professional formation" OR "professional identity formation")))

Cinahl: ((MH "Physical Therapy") AND ("professional value*" OR "core value*" OR "basic value*" OR "individual value*" OR "personal value*" OR "organizational value*" OR "theoretical value*" OR "professional formation" OR "professional identity formation") - limited to "Academic Journals"

Pro-Quest Nursing: ((physical therapy or physiotherapy) AND ("professional value*" OR "core value*" OR "basic value*" OR "Individual value*" OR "personal value*" OR "organizational value*" OR "Theoretical value*" OR "professional formation" OR "professional identity formation")) - limited to "Scholarly Journals" and Subject: "Physical Therapy"

Chapter 3

The Basic Human Values of Physical Therapists

ABSTRACT

Objective: The purpose of this study is to determine the human values profile of a random sample of physical therapists across the United States as well as determine the influence of demographic factors on value ranking.

Methods: A demographic survey and the Revised Portrait Values Questionnaire (PVQ-RR) was distributed to 2,000 physical therapists across nine states within each of the nine regions as defined by the American Council of Academic Physical Therapy (ACAPT) with 63 total responses. The PVQ-RR is a 57-item survey which results in scores for ten and nineteen-value categories. After centering results, value ranking ordered the values profile and meaningful associations with demographic factors were assessed. Effect size and goodness of fit for the model were also determined.

Results: Physical therapists ranked the values of *Benevolence* and *Universalism* highest and *Power* lowest, ranking self-transcendent (others-focused) values most highly. Thirteen demographic associations to values were determined, most associating age and years of practice with values related to conservation (*Security* and *Tradition*). Terminal bachelor's education was associated with decreased ratings of *Self-Direction* and *Tradition*. Practicing therapists also rated *Universalism Concern* higher than non-clinical physical therapists.

Conclusion: The values profile of physical therapists prioritizes self-transcendent values including *Universalism* which parallels the addition of *Inclusion* to the APTA Core Values. In comparison to a prior study of human values, therapist values have shifted

away from self-enhancement to demonstrate a greater concern for society and others.

Differences in some values are associated with demographic factors though the highest and lowest value priorities remain consistent throughout.

Impact Statement: Human values serve as the foundation for professional values in physical therapy. The study of basic human values in PT suggests that physical therapists rank others-focused values most highly while ranking values associated with self-focus lowest. While highest and lowest value rankings remain consistent, values prioritization varies with age, years of practice, degree attained and clinical vs non-clinical practice.

The Basic Human Values of Physical Therapists

Introduction

Within physical therapy (PT), values are often categorized as professional values or seen as a subcomponent of professionalism.¹ The American Physical Therapy Association (APTA) Core Values for the Physical Therapist and Physical Therapist Assistant (APTACV) has served as a foundational guiding document identifying and describing values for physical therapists over the past 20 years.² The APTA Professionalism in Physical Therapy Core Values Self-Assessment (PPTCVSA) tool defines the core values pertinent to the profession and provides sample behaviors congruent with each value to promote professional activities and ethical actions.³ The American Council of Academic Physical Therapy (ACAPT) Excellence Framework highlighted the concept of values as an important component of educational culture.⁴ Values are foundational to excellence in PT education through the lens of learner-centered education and patient-centered care.⁴ Contemporary cultural and societal priorities prompted the addition of *Inclusion* as a core value to further highlight and support the importance of a "welcoming and equitable environment for all."²

McGinnis et al suggest that individual values serve as the foundation for professional values development within PT.⁵ Understanding individual values which impact thoughts, behaviors, dispositions, and beliefs is a critical component of professional identity formation and affective development. Sagiv notes that the values profiles of individuals in specific fields are not arbitrary, but rather "occupations facilitate attainment of the goals that their members consider to be important." While much has

been studied relating to professional values within PT, little is known about the individual values of PT practitioners.

The *Theory of Basic Human Values* profiles individual values into ten and nineteen goal-oriented value categories. A self-administered assessment tool, the Revised Portrait Values Questionnaire (PVQ-RR), inventories and prioritizes personal values in creating individual values profiles. A 2005 study sought to understand the basic human values of physical therapists and surveyed a sample of the Wisconsin Physical Therapy Association, finding age related differences among practitioners and an overall prioritization of *Benevolence* which is associated with the welfare of others. Since that time, no studies have assessed basic human values in physical therapists and a contemporary understanding of basic human values in PT is not known.

The purpose of this study was to determine the human values profile of a random sample of physical therapists across the United States as well as association with demographic and practice specific variables: age, years of practice, gender, region, degree earned, practice setting, board-certification, and service as a clinical instructor (CI).

Methods

A cross-sectional survey of individual human values of physical therapists was conducted using the PVQ-RR paired with participant demographic survey inputs (age, gender, years of practice, primary state of practice, current practice setting, highest degree earned, board certification [if applicable], and service as a CI in the past 5 years)

(Appendix B).⁸ This study was declared exempt by the affiliating university's Institutional Review Board (Appendix C).

Participants

Two-thousand potential participants were randomly selected from board published physical therapist licensure lists from the following states: Ohio, West Virginia, New Jersey, Maine, California, North Carolina, Utah, Arkansas, and Texas. Lists were solicited and secured from one state within each of the nine regions as defined by ACAPT. State list selection was determined by accessibility, cost, and availability of licensee addresses for the purpose of mailing. Randomization and selection of 220-225 individuals from each state licensure lists were performed using Google Sheets software.

Value Profiling Outcome Tool

The PVQ-RR is a 57-item tool that identifies a ten-value and a refined nineteen-value structure within the four higher order values categories (Table 1). The basic human values proposed by Schwartz groups values into succinct underlying motivational goals. ¹² Within this circular framework (Figure 1), values may be mutually compatible (i.e.: Conformity and Tradition) or conflicting (i.e.: Power and Universalism). Opposing values represent contrast within the model also seen in the four higher order values; Self-enhancement vs Self-transcendence and Openness to change vs Conservation. ⁶ Assessment of these values reflect components of personal and social identities and are directly related to thoughts, attitudes, choices, and decisions. ⁶ The PVQ-RR prompts participants to identify with the female or male gender aligning respective pronoun within

the tool.⁸ The participants then read a brief description for 57 survey items and is to endorse an option of "How much like you is this person?" (Appendix D). Endorsements are on a six-point, ordinal, Likert-like scale and includes options of "not like me at all," "not like me," "a little like me," "moderately like me," "like me," and "very much like me;" not offering a neutral response. Each of the 57 survey items correspond to a value category comprised of between three and nine values categories. ¹³ The psychometric properties of the PVQ-RR have been established and validated cross culturally. ¹²

			Refined 19-	
Higher Order Values	10-Value (Item Numbers)	10-Value Profile Definitions	Value (Item Numbers)	19-Value Profile Definitions
	Benevolence	Preservation and enhancement of the welfare	Benevolence Dependability (19,27,55)	Being a reliable and trustworthy member of the in- group
SELF- TRANSCENDENCE	(11,25,47,19,27,55)	of people with whom one is in frequent personal contact	Benevolence Caring (11,25,47)	Devotion to the welfare of in- group members
			Universalism Tolerance (14,34,57)	Acceptance and understanding of those who are different from oneself
	Universalism (8,21,45,5,37,52, 14,34,57)	Understanding, appreciation, tolerance, and protection for the welfare of all people and of nature	Universalism Concern (5,37,52)	Commitment to equality, justice, and protection for all people
		un people una oj nature	Universalism Nature (8,21,45)	Preservation of the natural environment
	Conformity (15,31,42,4,22,51) Tradition	The restraint of actions, inclinations, and impulses that are likely to upset or	Conformity Interpersonal (4,22,51)	Avoidance of upsetting or harming other people
		harm others and violate social expectations or norms	Conformity Rules (15,31,42)	Compliance with rules, laws, and formal obligations
		Respect, commitment, and acceptance of the customs	Humility (7,38,54)	Recognizing one's insignificance in the larger scheme of things
CONSERVATION	(18,33,40,7,38,54)	and ideas that traditional culture or religion provides	Tradition (18,33,40)	Maintaining and preserving cultural, family, or religious traditions
			Security Societal (2,35,50)	Safety and stability in the wider society
	Security (13,26,53,2,35,50)	Safety, harmony, and stability of society, relationships, and self	Security Personal (13,26,53)	Safety in one's immediate environment
			Face* (9,24,49)	Security and power through maintaining one's public image and avoiding humiliation

	Power	Control or dominance over	Power Resources (12,20,44)	Power through control of material and social resources
SELF- ENHANCEMENT	(6,29,41,12,20,44)	people and resources	Power Dominance (6,29,41)	Power through exercising control over people
	Achievement (17,32,48)	Personal success through demonstrating competence according to social standards	Achievement (17,32,48)	Personal success through demonstrating competence according to social standards
	Hedonism (3,36,46)	Pleasure and sensuous gratification for oneself	Hedonism (3,36,46)	Pleasure and sensuous gratification for oneself
	Stimulation (10,28,43)	Excitement, novelty, and challenge in life	Stimulation (10,28,43)	Excitement, novelty, and challenge in life
OPENNESS TO CHANGE	Self-Direction	Independent thought and	Self-Direction Action (16,30,56)	The freedom to determine one's own actions
	(1,23,39,16,30,56)	action, choosing, creating, and exploring	Self-Direction Thought (1,23,39)	The freedom to cultivate one's own ideas and abilities

^{*}Face includes components of Security and Power and overlaps conservation and self-enhancement

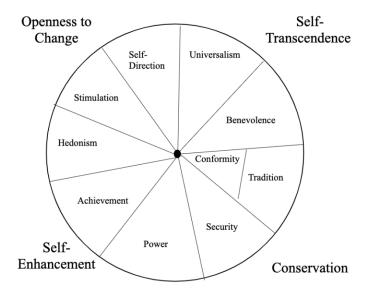


Figure 1. Circular Depiction of the Basic Theory of Human Values⁶

Data Collection

Researchers invited participation by crafting a postcard to disseminate to licensed physical therapists with language identifying the study, primary investigator, and intent for this scholarly dissertation work (Appendix E). The postcard, which was mailed through the United States Postal Service to all selected participants, contained a QR code

and survey link for participants to complete an online version of the PVQ-RR and demographic survey. There were two iterations of postcard mailings: an initial mailer and then a follow-up reminder mailer. Informed consent was acknowledged by participants agreeing to complete the survey. Responses had no identifying participant data and no data linking to the respective mailing lists for the study. Participants could exit the survey any time, though completion of all survey items was required for submission. Survey responses were collected via Google Forms software from November 12, 2022 to December 15, 2022. A Resulting data were gathered, reviewed, and uploaded to password protected cloud storage for synthesis and analysis.

Data Synthesis and Analysis

Statistical analyses were performed using Microsoft Excel and International Business Machines Statistical Package for the Social Sciences software version 29.^{14,15} Value scores were computed for the ten-value and nineteen-value categories by calculating mean scores from the component survey items as listed in Table 1. Scores were centered according to the coding analysis instructions for the PVQ-RR by first computing means of the value items comprising each of the value score (Table 1), then computing a total mean based on all 57 value items, and finally subtracting the total mean from each of the initial value scores.¹³ Value ranks were determined using centered value scores for the cohort.

To determine whether values differed based on age, gender, years of practice, primary state of practice, current practice setting, highest degree earned, board certification (if applicable), and service as a CI in the past 5 years, one way analysis of variance (ANOVA) compared mean scores for each value for all variables with a

significance threshold set at p<0.05. For variables with significant findings and three or more categories, multiple comparisons were conducted with a corrected p-value using the Bonferroni method with significance set at p<0.05. 17 Eta-squared was calculated for the effect size with thresholds set as small (0.01), medium (0.06), and large (0.16). 18 Linear regression analysis determined goodness of fit (adjusted R^2) of the model as well as posthoc testing for collinearity of variables (variance inflation factor and condition index).

The independent variables of age and years of practice were trichotomized into equal groupings (i.e.: young, middle, and older; least, middle, and greatest). Similarly, practice setting was trichotomized into non-clinical (not practicing, academic), inpatient and outpatient practice settings. Specialty board certification was dichotomized into board certified or non-board certified. Gender was dichotomized into male and female with one response not included ("prefer not to answer"). State of practice was grouped by geographic regions as defined by ACAPT to maintain consistency with survey dissemination.

Role of the Funding Source: Funding for this study was received through the Office of Research, Compliance and Initiatives at Youngstown State University. The funders played no role in the design, conduct or reporting of this study.

Results

Of the 2000 survey invitations mailed, 172 (8.6%) were returned undeliverable with a total of 63 individuals completing the survey equating to a 3.15% response rate. The mean age of participants was 48.4 years old (SD=13.2), ranging from 25-73 years old. Table 2 displays participant demographics. Overall value rank for ten-value and

nineteen-value categories are shown in Table 3. Within the ten-value groupings, five values were negatively ranked indicating those values are not like the cohort (*Conformity*, *Tradition*, *Achievement*, *Stimulation*, and *Power*). Within the nineteen-value groupings, seven values were negatively ranked (*Stimulation*, *Achievement*, *Power-dominance*, *Power-resources*, *Face*, *Tradition*, *Conformity-interpersonal*).

Table 2. Participant Demographics					
Gender	N (%)	Practice Setting	N (%)		
Female	43 (68.3)	No Longer Practicing	7 (11.1)		
Male	19 (30.2)	Academic	2 (3.2)		
Prefer not to answer	1 (1.6)	Inpatient	16 (25.4)		
		Outpatient	38 (60.3)		
ACAPT Region		Highest PT Degree			
Great Lakes	7 (11.1)	Bachelor's	18 (28.6)		
Mid-Atlantic	11 (17.5)	Master's	16 (25.4)		
New York/New Jersey	5 (7.9)	DPT or tDPT	29 (46)		
North East Coast	8 (12.7)	ABPTS Certification			
Pacific	11 (17.5)	No	57 (90.5)		
South-Atlantic	4 (6.3)	Yes	6 (9.5)		
West Mountain	8 (12.7)	CI in last 5 years			
West North-Central	3 (4.8)	No	37 (58.7)		
West South-Central	6 (9.5)	Yes	26 (41.3)		

Table 3. Descriptive Statistics of Human Values									
10-Value Categories	Centered Mean Value Scores			19-Value	Centered Mean Value Scores				
	Rank	Mean (SD)	Range	Categories	Rank	Mean (SD)	Range		
Benevolence	1	0.79 (0.44)	-0.39-1.96	Benevolence Dependability	2	0.80 (0.58)	-0.72-2.00		
				Benevolence Care	3	0.79 (0.56)	-0.81-1.98		
Universalism	2	0.62 (0.48)	-0.51-1.84	Universalism Tolerance	1	0.91 (0.54)	-0.46-2.02		
				Universalism Concern	5	0.71 (0.60)	-0.53-2.12		
				Universalism Nature	11	0.24 (0.85)	-2.02-1.61		
Security	3	0.39 (0.47)	-0.82-1.20	Security Personal	6	0.48 (0.72)	-0.54-1.54		
				Security Societal	10	0.30 (0.89)	-1.64-2.16		
				Face*	13	-0.20 (0.72)	-2.04-1.31		

Self-Direction	4	0.36 (0.54)	-0.57-1.42	Self-Direction Action	4	0.71 (0.65)	-0.68-1.91
				Self-Direction Thought	7	0.43 (0.63)	-0.98-1.63
Hedonism	5	0.14 (0.76)	-2.00-1.74	Hedonism	12	0.14 (0.76)	-2.00-1.74
Conformity	6	-0.03 (0.63)	-1.33-1.30	Conformity Rules	8	0.36 (0.91)	-1.65-2.79
				Conformity Interpersonal	15	-0.43 (0.96)	-2.13-1.32
Tradition	7	-0.26 (0.67)	-1.79-1.17	Humility	9	0.33 (0.72)	-2.13-1.68
				Tradition	17	-0.83 (1.14)	-3.46-1.41
Achievement	8	-0.41 (0.76)	-2.41-1.05	Achievement	14	-0.41 (0.76)	-2.41-1.05
Stimulation	9	-0.44 (0.79)	-2.16-1.71	Stimulation	16	-0.44 (0.79)	-2.16-1.71
Power	10	-1.73 (0.57)	-3.10-0.01	Power Dominance	18	-1.69 (0.76)	-3.41-0.18
				Power Resources	19	-1.76 (0.81)	-3.50-0.19

^{*}Face includes components of Security and Power and overlaps Conservation and Self-enhancement

Within the ten-value categories, older physical therapists ranked *Security* highly (F(2,60) = 4.988, p = 0.008) with a moderate effect size $(\eta 2 = 0.143)$, and *Security* was associated with increased years of practice (F(2,60) = 6.187, p = 0.004) with a large effect size $(\eta 2 = 0.171)$ (Appendix F: Supplemental Table 1). *Conformity* was rated lowest among older physical therapists though the middle group rated it most highly (F(2,60) = 3.318, p = 0.043) with a moderate effect size $(\eta 2 = 0.100)$. Participants whose highest PT degree was a bachelor's degree rated *Self-direction* lower than those earning a master's or doctoral degree (F(2,60) = 3.338, p = 0.04) with a moderate effect $(\eta 2 = 0.100)$ and corrected $p \ge 0.057$. High rating of *Tradition* also correlated to those holding a bachelor's degree (F(2,60) = 6.624, p = 0.003) with a large effect size $(\eta 2 = 0.181)$. No significant differences were found based on practice setting, region, gender, board certification, or recent serving as a CI.

Within the nineteen-value categories, *Self-direction-action* was rated most highly in the younger age group (F(2,60) = 3.428, p = 0.039) with a moderate effect size $(\eta 2 =$ 0.103) (Appendix E: Supplemental Table 2). Security-societal increased with age and significantly differed between the younger and older group (F(2,60) = 4.696, p = 0.013)with a moderate effect size ($\eta 2 = 0.135$) and increased with years of practice (F(2,60) =5.759, p < 0.01) with a large effect size ($\eta 2 = 0.161$). Conformity-interpersonal (F(2,60)) = 3.606, p < 0.04) and *Universalism-tolerance* (F(2,60) = 3.442, p < 0.04) decreased with age with a moderate effect size ($\eta 2 = 0.107$ and $\eta 2 = 0.103$, respectively). Universalismtolerance scores varied with region (F(8.54) = 2.223, p = 0.04) but represent a Type I error (corrected $p \ge 0.253$). Universalism-tolerance was also lower with years of practice (F(2,60) = 3.180, p < 0.05) with a moderate effect size ($\eta 2 = 0.096$). Differences in *Universalism-concern* were found between practice settings with non-clinical physical therapists rating lower than both inpatient and outpatient (F(2,60)=3.188, p < 0.05) with a moderate effect size ($\eta 2 = 0.096$). Holding a bachelor's degree was associated with higher ratings of Tradition (F(2,60)=5.369, p < 0.03) with a moderate effect size ($\eta 2 =$ 0.152). Age and Self-direction-action, years of practice and Universalism-tolerance, and practice setting and *Universalism-concern* may represent Type I errors (corrected $p \ge 1$ 0.052, 0.095 and 0.058, respectively). Gender, board certification and service as a CI did not significantly impact values ratings.

The variance of the total model for the ten-value groupings ranges from 0-13.4% (adjusted $R^2 < 0.00$ to 0.134). Variance ranged from 0-11.4% for the 19-value groupings (adjusted $R^2 < 0.00$ to 0.114). The variables age and years of practice are related with age predicting 90% of the variance within years of practice variable. However, when

assessing collinearity using significant dependent variables (i.e. *Security* ten-item or *Security Societal* nineteen-item), the variance inflation factor is less than 10 with condition index below 25, suggesting low risk of collinearity in the model.

Discussion

Few studies have assessed human values among healthcare professionals and students, and those that have, primarily report the ten value categories. 9, 19-21 This is the first study, to the investigators' knowledge, utilizing the refined nineteen value groupings to assess the basic human values of physical therapists with a more focused and refined lens. Several principles are clear for the participants in this survey: 1) values of *Benevolence* and *Universalism* are highest ranked while values of *Power* are ranked lowest 2) certain individual values differ among physical therapists based on personal factors – most predominantly, age, years of practice, degree and clinical practice setting and 3) the values profile of this cohort differs from the prior values profile of physical therapists though may be a result of the age difference between the samples.

Similarities in Values Profiles

Benevolence is a self-transcendent (others-focused) value described as being a reliable and trustworthy member of a group who is committed to "preservation and enhancement of the welfare of people with whom one is in frequent personal contact." This construct, ranked highly by physical therapists in this study, echoes ethical and professional underpinnings of the profession. The APTA Code of Ethics and APTACV explicitly communicate a commitment to trustworthiness with high integrity, fulfilling both professional and legal obligations to promote the function and mobility of others. ^{2, 22}

Similarly, the APTACV call clinicians to be compassionate, altruistic, and caring, benefiting patients, clients, and society.²

Universalism-tolerance, also a self-transcendent (others-focused) value, was ranked most highly within the refined nineteen-values construct with Universalism ranked second in the ten-values construct. Universalism is defined as "understanding, appreciation, tolerance, and protection for the welfare of all people and of nature" with Universalism-tolerance including "acceptance and understanding of those who are different from oneself." The high prioritization of the acceptance and understanding of others through Universalism ratings in this survey reflect professional values change captured by APTACV in the addition of Inclusion which is described as developing a "welcoming and equitable environment," creating "safe space, elevating diverse and minority voices, acknowledging personal biases." Inclusion was recently promoted as an important component of PT education in addressing social determinants of health, diversity, and justice. 23

By contrast, *Power* is defined as a self-enhancing (self-focused) value which seeks "control or dominance over people and resources." This value, ranked lowest by physical therapists, contrasts *Benevolence* directly and suggests consistency in the value profile of physical therapists as it expresses opposing motivational goals. As a profession focused on "optimizing movement to improve the human experience," therapists prize the empowerment of their clients, creating ability and capacity rather than prioritizing control of others and resources for self-benefit.²⁴

Participant Demographic Differences in Values

Within the ten value categories, age, years of practice, and terminal educational levels had significant associations with four of ten values (Figure 2). Older age was associated with higher rankings of Security while middle age was associated with higher rankings for Conformity. Years of practice, which parallels age, was also associated with higher rankings of Security. Bachelor's level education was associated with higher rankings of Tradition and lower rankings of Self-direction. The values of Benevolence, Power, Hedonism, Achievement, Stimulation and Universalism did not correlate to demographic variables.

Within the nineteen value categories, value scores associated with age include Self-direction Action which decreased, Security Societal which increased, and Conformity Interpersonal and Universalism Tolerance which both decreasing among older physical therapists (Figure 2). Paralleling age, increased years of practice correlated to higher scores for Security Societal and lower score for Universalism Tolerance among those with more experience. Those not working or in academic settings had lower Universalism Concern scores than clinical physical therapists, and bachelor's training was associated with higher scores for Tradition.

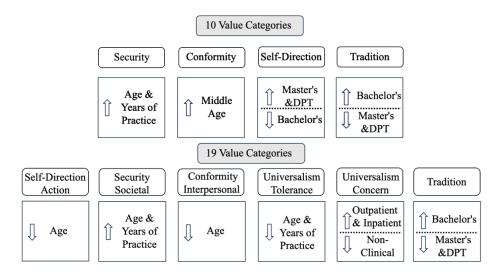


Figure 2. Demographic Variables Influencing Individual Values

However, all the significant demographic factors have an underlying age association within this cohort. Years of practice varies with age as does degree held and clinical practice setting (specifically, those not practicing or in academic positions). This mirrors the hypotheses supported by Noose and Sagiv that values will likely vary most with age within a study of physical therapists. In a prior European study using the Portrait Values Questionnaire-21 which measures the ten value categories, values of selfconservation (Tradition, Conformity, Security) tended to increase with age while values of openness to change (Stimulation, Self-direction) and self-enhancement (Power, Achievement, Hedonism) decreased with age. 25 Robinson suggests that these changes occur in accordance with adaptive aging theory which predicts a rise in conservation with age, as older individuals tend to focus on "on conserving their abilities and achievements rather than new acquisitions."25 Thus, the majority of demographic associations in the sample may be driven by age associated demographic changes, though a recent study in the Netherlands from 2022 suggests relative values stability over a 12 year span though Security and Self-direction increased with age while Power and Stimulation decreased

which may be attributed to both generational and individual changes consistent with aging theory.²⁶

Values Comparison

The human values profile of physical therapists in this study differs from the cohort studied in 2005.9 The majority of participants in both studies were women (75.8% vs 68.3%) and the prior cohort was younger (Median 33.2 vs 49.0) with less experience (Median 12.0 vs 22.0). While the former survey utilized the Schwartz Values Survey (SVS), a precursor to the PVQ-RR, the same ten-value items were compiled. Only the values of *Stimulation* and *Power* were negatively rated in 2005, but *Conformity*, Tradition, Achievement, Stimulation and Power were negatively rated by this participant cohort, indicating an overall downward shift in values ratings over time, specifically those relating to Self-enhancement and Conservation. The values trending higher in rank from 2005 to 2022 are *Universalism* and *Security* followed by *Tradition*, with decreases in Achievement, Self-direction, and Conformity. The former study found Self-direction and Achievement higher (+2 and +4, ranks respectively) with Universalism lower (-4 ranks) among the 10-value categories. This differential suggests a greater self-focus in values among physical therapists in 2005 versus now. *Universalism Tolerance*, Universalism Concern, Benevolence Dependability, and Benevolence Care occupy four of the top five value rankings in the nineteen-value profile within this cohort. The shift in the physical therapist values profile toward Self-transcendent (others-focused) values suggests a greater concern for others among the physical therapists surveyed in this study.

Table 5: Human Value	s Change Among Phys	ical Therapists	
Value	Ranking – 2022	Ranking – 2005	Net Difference

Benevolence	1	1	0
Universalism	2	6	+4
Security	3	7	+4
Self-direction	4	2	-2
Hedonism	5	5	0
Conformity	6*	3	-3
Tradition	7*	8	+1
Achievement	8*	4	-4
Stimulation	9*	9*	0
Power	10*	10*	0

^{*} Indicates the mean scores were negative values

Limitations

The primary limitation to this study is the low response rate. While soliciting a random sample of physical therapists from a state within each of the ACAPT regions reduces selection bias, non-response bias is high, limiting the generalizability of results. Similarly, possible Type I error was found in five of thirteen significant associations with corrected *p*>0.05, reducing the number of meaningful associations in the dataset. The variables age, years of practice and highest degree earned have similar underlying constructs in that the older an individual is, the more likely they are to have had greater years of practice, hold a bachelor's degree. Non-clinical physical therapists (not working or working in academia) were found to be twelve years older than those working in inpatient or outpatient settings (58 years old vs 46 years old) suggesting this variable also has an age associated component. Thus, there is some degree of collinearity between these variables, though they are not statistically identical.

Recommendations

Echoing Noose and Sagiv, surveying a larger randomized and stratified sample of physical therapists across the lifespan would promote understanding of the current values

profile of physical therapists. However, it may be more feasible to survey sub-groupings within the PT profession to define a more complete profile of values across the profession (i.e.: PT students, faculty, CIs, clinicians, etc.). Another missing component of values studies within PT includes exploring the impact of values priorities on clinical care and patient outcomes. Also, an empirical association between individual values and professional values is not known, and while individual values capture the breadth of human values, professional values tools, such as the PPTCVSA, are specific to clinical practice and professional outcomes. Lastly, understanding how values change longitudinally throughout the professional identity formation process is paramount to establishing the foundation for values formation and integration.

Conclusion

Individual physical therapists share commonalities in their human values profile though certain values vary based on demographic factors. Generally, values that are highly prioritized are self-transcendent (others-focused) including *Benevolence* and *Universalism* while values that are self-enhancing (self-focused) have low priority (*Achievement, Stimulation and Power*). The values that differed based on age, years of practice, practice setting or degree attained included *Security*, *Conformity*, *Tradition*, *Self-direction*, *Universalism Concern* and *Universalism Tolerance*, though all significant demographic factors are associated with age. When compared to the only prior study of human values in PT, the overall profile has shifted towards values that are self-transcendent (other-centric) including *Universalism* corresponding to contemporary changes in professional values with the addition of *Inclusion* to the APTACV.^{2,9} While the study of human values is sparse within PT, understanding contemporary values,

values shift and relationship to relevant changes in professional values highlights the importance of human values in care delivery within a humanitarian profession.

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Appendix B: Demographic Survey

Physical Therapist Values

INFORMED CONSENT

Dr. Cara A. Berg-Carramusa and Dr. Matthew Mucha are conducting a survey of licensed physical therapists within the United States. Your participation in this study is valuable in contributing to the body of knowledge among physical therapists regarding personal values and professional identity. Your responses are appreciated and meaningful to this investigation.

This study aims to understand individual physical therapist values as measured by the Portrait Values Questionnaire. Time needed to complete the survey is approximately 15 minutes. Survey results data will be reviewed, complied, analyzed and disseminated as a manuscript.

There are no risks to participating in this study and your participation is voluntary. No personally identifiable information will be collected or recorded during this survey. Collected survey responses will be securely kept in a password-protected cloud space. Access to the data will be limited to the co-investigators associated with this investigation and, when necessary, the IRB at Youngstown State University. Submission of this survey implies your consent to participate.

If you have questions concerning this research, contact Cara Berg-Carramusa at (412) 417-8598 or cacarramusa@ysu.edu or Matthew Mucha at <a href="mailto:mail

Please click "I acknowledge" below to begin the survey.

We are grateful for your time and commitment in participating in this investigation

	we are graterur for your time and commitment in participating in this investigation.
* In	dicates required question
1.	I have read the above information and agree to participate in the following study $\ensuremath{^{\star}}$
	Check all that apply.
	I acknowledge
Ski	ip to question 2
	Demographic Information
Pl	lease complete the following brief demographic survey
2.	What is your age? *

3.	With what gender do you identify? *
	Mark only one oval.
	Male
	Female
	Prefer not to say
4.	How many years have you practiced as a physical therapist?*

5.	In what state do you primarily practice?*
	Mark only one oval.
	Alabama
	Alaska
	Arizona
	Arkansas
	California
	Colorado
	Connecticut
	Deleware
	Florida
	Georgia
	Hawaii
	Idaho
	Illinois
	Indiana
	lowa
	Kansas
	Kentucky
	Louisiana
	Maine
	Maryland
	Massachusetts
	Michigan
	Minnesota
	Mississippi
	Missouri
	Montana
	Nebraska
	Nevada
	New Hampshire
	New Jersey
	New Mexico
	New York
	Northo Carolina
	North Dakota
	Ohio
	Oklahoma
	Oregon
	Pennsylvania
	Rhode Island
	South Carolina

	South Dakota
	Tennessee
	Texas
	Utah
	Vermont
	Virginia
	Washington
	West Virginia
	Wisconsin
	Wyoming
6.	Please indicate the <u>primary</u> setting in which you currently practice: *
0.	Please indicate the <u>printary</u> setting in which you currently practice.
	Check all that apply.
	Outpatient (corporate or hospital affiliated)
	Private practive
	Acute care hospital Inpatient rehabilitation facility
	Skilled nursing
	School-based intervention
	Home healthcare
	Academic setting
	No longer practicing/employed at a physical therapist
7.	What is your highest level of physical therapy degree earned? *
	Check all that apply.
	Bachelor's degree
	Master's degree
	Doctor of physical therapy (DPT or tDPT)
8.	If you are Board -Certified in Physical Therapy by the American Board of Physical Therapy Specialties, please * identify your specialization(s):
	Check all that apply.
	Not applicable
	Cardiovascular and Pulmonary
	Clinical Electrophysiology
	Geriatrics
	☐ Pediatrics
	Neurology Opening
	Oncology Orthopedics
	Sports
	Women's Health
	Wound Management

9.	Within the past 5 years, have you served as a clinical instructor for physical therapy students? *	
	Mark only one oval.	
	Yes	
	◯ No	
10.	Please select the version of the values survey you would like to complete - all survey questions are the same, only pronouns differ:	*
	Mark only one oval.	
	Male Skip to question 11	
	Female Skip to question 68	

Appendix C: IRB Exemption

Date: 6-3-2023

IRB #: 2023-21

Title: The Values of Physical Therapists

Creation Date: 8-4-2022

End Date: Status: Approved

Principal Investigator: Cara Carramusa Review Board: YSU IRB Board

Sponsor:

Study History

Submission Type Initial Review Type Exempt Decision Exempt	
--	--

Key Study Contacts

Member Matthew Mucha	Role Co-Principal Investigator	Contact
Member Cara Carramusa	Role Principal Investigator	Contact cacarramusa@ysu.edu
Member Matthew Mucha	Role Primary Contact	Contact

Getting Started

About Youngstown State University IRB and Cayuse IRB

All research projects conducted under the auspices of Youngstown State University that involve the use of living human subjects, samples or data obtained from them, directly or indirectly, with or without direct consent, <u>must receive approval from the Institutional Review</u> Board **before** the project can begin.

Cayuse IRB is an interactive web application. As you answer questions, new sections relevant to the type of research being conducted will appear on the left-hand side. Therefore not all numbered sections may appear. You do not have to finish the application in one sitting. All information can be saved.

For more information about the IRB regulations and procedures, please refer to the IRB Handbook.

Getting Started

All YSU faculty, students, and staff who are involved with human subjects research must complete training through the CITI Program (INSTRUCTIONS for registering and completing training).

New investigators should consider beginning the online training course up to two weeks prior to the submission of an IRB Protocol or grant application, and prior to beginning the planned research project

Throughout the submission, you will be required to provide the following:

- Research instruments (surveys, questionnaires, or other instruments)
- Detailed Study Information
- Informed Consent Forms, if applicable
- · Waiver of Informed Consent Form, if applicable
- Study Recruitment Information

Approval letters from other sites where research will be conducted, if applicable

Youngstown State University IRB

- You may not begin your research project and recruitment of subjects until a formal approval letter from the chair of the IRB has been received.
- The IRB meets as needed during the regular academic year. Please submit the application as soon as possible.

*required

I have read the information above and I am ready to begin my submission.

✓ Yes

Study Information

1							
*	r		11	ı	r		

Is this a student-conducted study /project?

All students conducting a study/project are required to list their faculty advisor(s)/Principal Investigator (PI) in the YSU study personnel section.

✓ Yes

No

*required

What is your status at Youngstown State University?

Faculty

✓ Student
*required

Undergraduate Student

✓ Graduate Student

Youngstown State University Study Personnel

List all YSU study personnel involved in the conduct of this study.

If you cannot find a person in the people finder, please contact the IRB Office immediately at YSUIRB@ysu.edu

*required

Staff

Principal Investigator or Faculty Advisor

Provide the name of the Principal Investigator or the Faculty Advisor for

student-conducted studies. Name: Cara Carramusa

Organization: Grad Health 141214

Address: One University Plaza , Youngstown, OH 44555-0001

Phone: 330-941-1963 Email: cacarramusa@ysu.edu

*required

Primary Contact

Provide the name of the Primary Contact of this study.

Name: Matthew Mucha

Organization: Grad Health 141214

Address: One University Plaza , Youngstown, OH 44555-0001

Phone: Email:

*required

Student Investigator(s)

Provide the name of the Student Investigator(s) for this study.

Name: Matthew Mucha

Organization: Grad Health 141214

Address: One University Plaza , Youngstown, OH 44555-0001

Phone: Email:

Co-Investigator(s)

Provide the name(s) of Co-Investigator(s) for this study.

*required

Non-Youngstown State University Personnel

✓ Yes

_	Name of non-YSU personnel
	Christine McCallum
*re	equired Phone number of non-YSU personnel
	(330)490-7252
*re	equired
	Email address of non-YSU personnel
	cmccallum@walsh.edu
*re	equired
	Name of Affiliation of non-YSU personnel
	Walsh University
	Additional non-YSU personnel
	List all the names, phone numbers, email addresses and names of affiliational non-YSU personnel. Leigh Murray; (816)423-4681; Imurray1@graceland.edu; Graceland University Elizabeth Domholt; (218)213-6102; bdomholdt@gmail.com; n/a
No	

*required

Study Dates

Provide the anticipated study start and end dates.

*required

Start Date

11-01-2022

*required

End Date

12-31-2022

*required

Where will this study/project take place?

Location of research

✓ Youngstown State University

Other facility

Multiple other facilities

*required

What type of study/project is this submission?

Type of research

✓ Research Study/Creative Investigation

A research study or creative investigation is a project that uses systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge (45 CFR 46.102(d)).

Clinical Trial

Single Patient, Treatment Use, Continued Access Drug/Device Study

Emergency (or Compassionate) Use of Investigational Drug or Device

*required

Will this study/project ONLY use pre-existing data?

Pre-existing data means the data existed before or was collected prior to the study/project was proposed for a purpose other than the proposed study/project. (For purposes of a grant, this refers to data collected prior to the time the study/project was proposed.)

Select **no** if the study includes a combination of pre-existing and new data.

Yes

✓ No

*required

Does the study/project meet the exemption criteria?

The study/project involves: (check all that apply)

pregnant women, fetuses, prisoners, mentallyill or incapacitated subjects

survey or interview procedures with children, minors less than 18 years old

observation of children in settings where the investigator(s) will participate in the activities being observed

deception

more than minimal risk to the human subject

potential harm to subjects if the data or identifiable information is revealed or disclosed

Harm to subjects means that any disclosure of the human subject's responses outside this study/project could reasonably place the subjects at risk of criminal or civil liability or can be damaging to subjects? financial standing, employability, or reputation.

collection of sensitive data (illegal activities, or sensitive themes such as sexual orientation, sexual behavior, undesirable work behavior, or other data that may be painful or very embarrassing to reveal, such as death of a family member, memories of physical abuse)

collection of data, documents, records or specimens from subjects after the submission of this

study/project

collection of data, documents, records, or specimens labeled or recorded in such a manner that subjects can be identified, directly or indirectly through identifying links ((i.e., demographic information that might reasonably lead to the identification of subjects' name, phone number, or an code number that can be used to link the investigator's data to the source record, medical record number or hospital admission number)?

✓ none of the above

*required

The study/project meets the exemption criteria

Provide a description of the study/project, including:

- how the participants will be identified and recruited,
- the procedures to which human subjects will be exposed,
- the method for data collection and analysis,
- the method for obtaining informed consent that will minimize coercion or undue influence.

Participant Selection: Individuals will be randomly identified from publicly available physical therapist state licensure boards across the United States. Out of nine regions in the United States identified by the Commission on Accreditation of Physical Therapy Education, the following states provide publicly available mailing lists of licensed physical therapists: Ohio, West Virginia, New Jersey, Maine, California, North Carolina, Utah, Arkansas and Texas. Procedure: Individuals will be invited to participate in a survey which includes demographic data and the Portrait Values Questionnaire (PVQ-RR), a 57 item values profile survey (see attachment Form_Survey_2023.21). Personal data collection will include gender, state of practice, age, highest degree level, years of practice, practice setting, clinical instruction experience and specialization (if any). Please see the attached instrument as well as a letter of approval from Dr. Shalom Schwartz who developed the PVQ-RR. The PVQ-RR was developed using either male or female gender pronouns with the participant directed to the appropriate survey based on selected preference. An initial mailing will be sent to the address on file for each randomly selected participant inviting them to participate in the survey. Two weeks later, an additional mailing will be sent to each participant. Access to the electronic form will occur via QR code or hyperlink.

Method: The survey will be conducted electronically using Google Forms and analyzed using SPSS. Analysis of the PVQ-RR will be in accordance with the manual for coding and analysis of the PVQ-RR published in 2016 (see attachment PVQ-RR_CodingAnalysis). Analysis will include assessment of the general values profile among physical therapists and any significant correlations between demographic data and values profile using multiple regression analysis. Data storage will occur via Google drive and OneDrive in the researcher's password protected accounts.

Informed Consent: An informed consent statement is the initial survey page with acceptance of informed consent implicit upon completion of the survey.

Study Instruments

Schwartz_approval.docx

PVQ-RR Eng M&F.docx

PVQ-RR_CodingAnalysis.docx

Forms_Survey_2023.21.pdf

*required

Informed Consent procedures/methods and forms

Identify the procedures/methods and consent forms to be used in your study:

Written consent/assent form which contains all elements of the informed consent

A short form written consent/assent form summarizing orally presented consent information

Written consent document but waiver of study participant or legal guardian's signature
 *required

Explain your rational for requesting waiver of documentation of consent and include a mechanism for documenting that informed consent was obtained.

Waiver of consent can be granted for studies with no more than minimal risk IF:

- the only record linking the subject and research is the consenting signature and the study's principal risk is harm from a breach of confidentiality
- the subjects are members of a distinct cultural group or community in which signing forms is not the norm

All licensed physical therapists in the United States are required by law to be over the age of 18. Similarly, no vulnerable populations are intentionally identified as part of this study. See the informed consent statement below:

"Dr. Cara A. Berg-Carramusa and Dr. Matthew Mucha are conducting a survey of licensed physical therapists within the United States. Your participation in this study is valuable in contributing to the body of knowledge among physical therapists regarding personal values and professional identity. Your responses are appreciated and meaningful to this investigation.

This study aims to understand individual physical therapist values as measured by the Portrait Values Questionnaire. Time needed to complete the survey is approximately 15 minutes. Survey results data will be reviewed, complied, analyzed and disseminated as a manuscript.

There are no risks to participating in this study and your participation is voluntary. No personally identifiable information will be collected or recorded during this survey. Collected survey responses will be securely kept in a password-protected cloud space. Access to the data will be limited to the co-investigators associated with this investigation and, when necessary, the IRB at Youngstown State University. Submission of this survey implies your

consent to participate.

If you have questions concerning this research, contact Cara Berg-Carramusa at (412) 417-8598 or cacarramusa@ysu.edu or Matthew Mucha at mdmucha@student.ysu.edu. If you have any questions about your rights as a participant in this research project, you may contact the Office of Research at Youngstown State University at (330-941-2377) or YSUIRB@ysu.edu.

Please click "I acknowledge" below to begin the survey.

We are grateful for your time and commitment in participating in this investigation."

- the documentation that informed consent was obtained must be securely kept by the researcher for 3 years
- the IRB may approve waiver of documentation of consent, IRB may require a written (but unsigned) consent document with all elements of consent to be provided to the study participant or legal guardian

Not applicable

Conflict of Interest

*required

Do you or any investigator(s) participating in this study have a financial interest related to this research project?

Yes

✓ No

Attachments (Optional)
This section is an overview of all the attachments in your application.
Attach outside IRB records in this section under Outside IRB of Record .
Other Facility
If applicable, include the Letter of Cooperation.
Other facilities
If applicable, include all the Letters of Cooperation.
Study Procedures
If applicable, attach the following documenttion

Study Documents

If applicable, this includes flyers used for recruitment. PostcardProof3

	If applicable, attach all instruments (i.e. surveys, questionnaires, evaluation blanks, etc.
	to be used in the study. Schwartz_approval.docx
	PVQ-RR Eng M&F.docx
	PVQ-RR_CodingAnalysis.docx
	Forms_Survey_2023.21.pdf
	Existing data (archives/databases,)
	If applicable, include permission to access.
	FDA Letter
	If applicable, attach FDA Letter.
Pa	rticipant Protection
Att	ach applicable forms
	Written consent/assent form
	Short form written consent/ ascent form

Study Instruments

Appendix D: PVQ-RR

PVQ-RR Male (10/2013)

Here we briefly describe different people. Please read each description and think about how much that person is or is not like you. Put an X in the box to the right that shows how much the person described is like you.

HOW MUCH LIKE YOU IS THIS PERSON?

HOW MUCH LIKE YOU IS THIS PERSON?

		Not like me at all	Not like me	A little like me	Moder- ately like me	Like me	Very much like me
1.	It is important to him to form his views independently.						
2.	It is important to him that his country is secure and stable. $ \\$						
3.	It is important to him to have a good time.						
4.	It is important to him to avoid upsetting other people.						
5.	It is important to him that the weak and vulnerable is society be protected.	n 🗆					
6.	It is important to him that people do what he says they should.						
7.	It is important to him never to think he deserves more than other people.						
8.	It is important to him to care for nature.						
9.	It is important to him that no one should ever shame $\mathop{\text{him}}\nolimits$.	e \Box					
10.	It is important to him always to look for different things to do.						
11.	It is important to him to take care of people he is close to.						
12.	It is important to him to have the power that money can bring. $ \\$						
13.	It is very important to him to avoid disease and protect his health.						
14.	It is important to him to be tolerant toward all kinds of people and groups. $ \\$						
15.	It is important to him never to violate rules or regulations.						
16.	It is important to him to make his own decisions about his life.						
17.	It is important to him to have ambitions in life.						
18.	It is important to him to maintain traditional values and ways of thinking.						
19.	It is important to him that people he knows have ful confidence in him. $ \\$	I					
20.	It is important to him to be wealthy.						
21.	It is important to him to take part in activities to defend nature.						

		Not like me at all	Not like me	A little like me	Moder- ately like me	Like me	Very much like me
22.	It is important to him never to annoy anyone.						
23.	It is important to him to develop his own opinions.						
24.	It is important to him to protect his public image.						
25.	It is very important to him to help the people dear to him.	0					
26.	It is important to him to be personally safe and secure.						
27.	It is important to him to be a dependable and trustworthy friend.						
28.	It is important to him to take risks that make life exciting.						
29.	It is important to him to have the power to make people do what he wants.						
30.	It is important to him to plan his activities independently.						
31.	It is important to him to follow rules even when no-one is watching. $ \\$						
32.	It is important to him to be very successful.						
33.	It is important to him to follow his family's customs or the customs of a religion. $ \\$						
34.	It is important to him to listen to and understand people who are different from him.						
35.	It is important to him to have a strong state that can defend its citizens.	n					
36.	It is important to him to enjoy life's pleasures.						
37.	It is important to him that every person in the world have equal opportunities in life.						
38.	It is important to him to be humble.						
39.	It is important to him to figure things out himself.						
40.	It is important to him to honor the traditional practices of his culture.						
41.	It is important to him to be the one who tells others what to do.						
42.	It is important to him to obey all the laws.						
43.	It is important to him to have all sorts of new experiences.						
44.	It is important to him to own expensive things that show his wealth $% \left(1\right) =\left(1\right) \left(1\right)$						
45.	It is important to him to protect the natural environment from destruction or pollution.						
46.	It is important to him to take advantage of every opportunity to have fun.						
47.	It is important to him to concern himself with every need of his dear ones.						

		Not like me at all	Not like me	A little like me	Moder- ately like me	Like me	Very much like me
48.	It is important to him that people recognize what he achieves.						
49.	It is important to him never to be humiliated.						
50.	It is important to him that his country protect itself against all threats.						
51.	It is important to him never to make other people angry.						
52.	It is important to him that everyone be treated justly, even people he doesn't know.						
53.	It is important to him to avoid anything dangerous.						
54.	It is important to him to be satisfied with what he has and not ask for more.						
55.	It is important to him that all his friends and family can rely on him completely.						
56.	It is important to him to be free to choose what he does by himself.						
57.	It is important to him to accept people even when he disagrees with them.	e					

PVQ-RR Female (10/2013)

Here we briefly describe different people. Please read each description and think about how much that person is

is not like you. Put an X in the box to the right that shows how much the person described is like you.

HOW MUCH LIKE YOU IS THIS PERSON?

HOW MUCH LIKE YOU IS THIS PERSON?

		Not like me at all	Not like me	A little	Moder- ately like me	Like me	Very much like me
1.	It is important to her to form her views independently.						
2.	It is important to her that her country is secure and stable.						
3.	It is important to her to have a good time.						
4.	It is important to her to avoid upsetting other people	. 🗆					
5.	It is important to her that the weak and vulnerable in society be protected.	ı 					
6.	It is important to her that people do what she says they should.						
7.	It is important to her never to think she deserves more than other people.						
8.	It is important to her to care for nature.						
9.	It is important to her that no one should ever shame her.						
10.	It is important to her always to look for different things to do.						
11.	It is important to her to take care of people she is close to.						
12.	It is important to her to have the power that money can bring. $ \\$						
13.	It is very important to her to avoid disease and protect her health.						
14.	It is important to her to be tolerant toward all kinds of people and groups.						
15.	It is important to her never to violate rules or regulations.						
16.	It is important to her to make her own decisions about her life.						
17.	It is important to her to have ambitions in life.						
18.	It is important to her to maintain traditional values and ways of thinking.						
19.	It is important to her that people she knows have ful confidence in her.	II					
20.	It is important to her to be wealthy.						
21.	It is important to her to take part in activities to defend nature.						

		Not like me at all	Not like me	A little like me	Moder- ately like me	Like me	Very much like me
2	2. It is important to her never to annoy anyone.						
2	3. It is important to her to develop her own opinions.						
2	4. It is important to her to protect her public image.						
2	It is very important to her to help the people dear to her.						
2	It is important to her to be personally safe and secure.						
2	It is important to her to be a dependable and trustworthy friend.						
2	It is important to her to take risks that make life exciting.						
2	It is important to her to have the power to make people do what she wants.						
3	 It is important to her to plan her activities independently. 						
3	 It is important to her to follow rules even when no- one is watching. 						
3	2. It is important to her to be very successful.						
3	It is important to her to follow her family's customs or the customs of a religion.						
3	 It is important to her to listen to and understand people who are different from her. 						
3	It is important to her to have a strong state that can defend its citizens.						
3	6. It is important to her to enjoy life's pleasures.						
3	It is important to her that every person in the world have equal opportunities in life.						
3	8. It is important to her to be humble.						
3	9. It is important to her to figure things out herself.						
4	It is important to her to honor the traditional practices of her culture.						
4	 It is important to her to be the one who tells others what to do. 						
4	2. It is important to her to obey all the laws.						
4	It is important to her to have all sorts of new experiences.						
4	 It is important to her to own expensive things that show her wealth 						
4	It is important to her to protect the natural environment from destruction or pollution.						
4	It is important to her to take advantage of every opportunity to have fun.						
4	It is important to her to concern herself with every need of her dear ones.						

		Not like me at all	Not like me	A little like me	Moder- ately like me	Like me	Very much like me
48.	It is important to her that people recognize what she achieves.	e					
49.	It is important to her never to be humiliated.						
50.	It is important to her that her country protect itself against all threats.						
51.	It is important to her never to make other people angry.						
52.	It is important to her that everyone be treated justly even people she doesn't know.						
53.	It is important to her to avoid anything dangerous.						
54.	It is important to her to be satisfied with what she has and not ask for more.						
55.	It is important to her that all her friends and family can rely on her completely.						
56.	It is important to her to be free to choose what she does by herself.						
57.	It is important to her to accept people even when she disagrees with them.						

Appendix E: Postcard Invitation for Study Participation







One University Plaza • Youngstown, Ohio 44555

RETURN SERVICE REQUESTED



Appendix F: Supplemental Tables

	able 1: Results of To	en value	Categorie		1	1
Demographic Factor	Value Category	F	<i>p</i> -value	Corrected p-value	η^2	95% CI
Age	Self-Direction	1.115	0.335		0.036	0-0.142
Trichotomized	Y-M			0.501		
	Y-O			0.762		
	М-О			1		
	Stimulation	3.095	0.053		0.094	0-0.23
	Y-M			0.076		
	Y-O			1		
	М-О			0.155		
	Hedonism	1.354	0.266		0.043	0-0.156
	Y-M			1		
	Y-O			0.361		
	М-О			0.707		
	Achievement	0.589	0.558		0.019	0-0.107
	Y-M			1		
	Y-O			1		
	М-О			0.916		
	Power	0.38	0.686		0.013	0-0.088
	Y-M			1		
	Y-O			1		
	М-О			1		
	Security	4.988	0.01*		0.143	0.009- 0.289
	Y-M		I	0.508		I
	Y-O			0.008*		
	M-O			0.251	1	
	Conformity	3.318	0.043*		0.1	0-0.238
	Y-M		ı	0.937		ı
	Y-O			0.387	1	
	M-O			0.039*	1	
	Tradition	1.31	0.278		0.042	0-0.153
	Y-M		•	0.806		•
	Y-O			0.363		
	M-O			1		
	Benevolence	0.325	0.724		0.011	0-0.082
	Y-M			1		
	Y-O			1	1	
	M-O			1	1	

	Universalism	0.604	0.55		0.02	0-0.108
	Y-M			1		
	Y-O			0.969		
	M-O			1		
Years of	Self-Direction	0.971	0.385		0.031	0-0.134
Practice	L-M			1		I.
Trichotomized	L-H			0.537		
	M-H			1		
	Stimulation	2.234	0.116		0.069	0-0.197
	L-M			0.181		
	L-H			1		
	M-H			0.265		
	Hedonism	0.455	0.637		0.015	0-0.096
	L-M			1		
	L-H			1		
	М-Н			1		
	Achievement	1.906	0.158		0.06	0-0.183
	L-M			0.217		
	L-H			1		
	M-H			0.412		
	Power	1.048	0.357		0.034	0-0.139
	L-M			1		
	L-H			0.575		
	М-Н			0.734		,
	Security	6.187	0.004*		0.171	0.022- 0.32
	L-M			0.633		
	L-H			0.003*		
	M-H			0.093		
	Conformity	1.11	0.336		0.036	0-0.142
	L-M			1		
	L-H			1		
	М-Н	-		0.434		1
	Tradition	1.614	0.208		0.051	0-0.169
	L-M			0.609		
	L-H			0.267		
	М-Н			1		T
	Benevolence	0.345	0.71		0.011	0-0.084
	L-M			1		
	L-H			1		
	М-Н			1		

	Universalism	1.017	0.368		0.033	0-0.137
	L-M			1		
	L-H			0.585		
	М-Н			0.773		
Gender	Self-Direction	0.245	0.783		0.008	0-0.072
	Stimulation	0.997	0.375		0.032	0-0.135
	Hedonism	0.76	0.472		0.025	0-0.120
	Achievement	0.011	0.989		0	0-0
	Power	0.289	0.75]	0.01	0-0.078
	Security	0.463	0.632		0.015	0-0.096
	Conformity	1.493	0.233]	0.047	0-0.163
	Tradition	1.442	0.244]	0.046	0-0.16
	Benevolence	0.217	0.805		0.007	0-0.068
	Universalism	0.134	0.875		0.004	0-0.052
Region	Self-Direction	1.21	0.311		0.152	0-0.218
	1-2			1		
	1-3			1		
	1-4			1		
	1-5			0.547		
	1-6			0.939		
	1-7			1		
	1-8			1		
	1-9			0.75		
	2-3			1		
	2-4			1		
	2-5			1		
	2-6			1		
	2-7			1		
	2-8			1		
	2-9			1		
	3-4			1		
	3-5			1		
	3-6			1		
	3-7			1		
	3-8			1		
	3-9			1		
	4-5			1		
	4-6			1		
	4-7			1		
	4-8			1		
	4-9			1		

T	T			Ι.	
	5-6			1	
	5-7			1	
	5-8			1	
	5-9			1	
	6-7			1	
	6-8			1	
	6-9			1	
	7-8			1	
	7-9			1	
	8-9			1	
St	timulation	0.484	0.862		0.067 0-0.079
	1-2	•		1	•
	1-3			1	
	1-4			1	
	1-5			1	
	1-6			1	
	1-7			1	
	1-8			1	
	1-9			1	
	2-3			1	
	2-4			1	
	2-5			1	
	2-6			1	
	2-7			1	
	2-8			1	
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	8-9			1		
	Hedonism	0.598	0.775		0.081	0-0.108
	1-2			1		
	1-3			1		
	1-4			1		
	1-5			1		
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	6-8			1		
	6-9			1		
	7-8			1		

	7-9			1		
	8-9			1		
	Achievement	0.611	1.051		0.135	0-0.194
	1-2			1		
	1-3			1		
	1-4			1		
	1-5			0.415		
	1-6			1		
	1-7			1		
	1-8			1		
	1-9			1		
	2-3			1		
	2-4			1		
	2-5			1		
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	2-9			1		
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	4-5			1		
	4-6			1		
	4-7			1		
	4-8			1		
	4-9			1		
	5-6			1		
	5-7			1		
	5-8			1		
	5-9			1		
	6-7			1		
	6-8			1		
	6-9			1		
	7-8			1		
	7-9			1		
	8-9			1		
	Power	0.412	1.315		0.163	0-0.232
	1-2			1		

	1-3			1	
	1-4			1	
-	1-5			0.873	
_	1-6			1	
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	8-9			1	
5	Security	0.157	0.671		0.09 0-0.124
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		0.151	0.346		0.049	0-0.035
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Tradition	0.348 0.7		0.101 0-0.143
1-2	0.7	1	0 0.175
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	7-9		1	
	8-9		1	
Be	enevolence	0.146 0.72		0.096 0-0.134
	1-2		1	
	1-3		1	
	1-4		1	
	1-5		1	
	1-6		1	
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6-7			1	
6-8			1	
6-9			1	
7-8			1	
7-9			1	
8-9			1	
Universalism	0.413	2.038	1	0.232 0-0.316
1-2	0.713	2.030	1	0.232 0-0.310
1-3			1	
1-4			1	
1-5			0.328	
1-6			1	
1-7			0.51	
1-8			1	
1-9			1	
2-3			1	
2-4			1	
2-5			1	
2-6			1	
2-7			1 1	
7-8 1			1	
2-8			1	
2-9			1	
2-9 3-4			1 1 1	
2-9 3-4 3-5			1 1 1 1	
2-9 3-4 3-5 3-6			1 1 1 1	
2-9 3-4 3-5 3-6 3-7			1 1 1 1 1 1	
2-9 3-4 3-5 3-6			1 1 1 1	

	Non-Inp			1		
	Conformity	1.827	0.17		0.057	0-0.179
	Inp-Out			1		
	Non-Out			1	1	
	Non-Inp	· ·		1		•
	Security	0.089	0.915		0.003	0-0.039
	Inp-Out			0.135	1	
	Non-Out			1	1	
	Non-Inp	,		0.101	2.07	
	Power	2.97	0.059		0.09	0-0.225
	Inp-Out			1	-	
	Non-Out			1	-	
	Non-Inp	0.07	0.732	1	0.002	0-0.032
	Achievement	0.07	0.932	1	0.002	0-0.032
	Inp-Out			1	-	
	Non-Out			1	-	
	Non-Inp	0.183	0.832	1	0.006	0-0.002
	Hedonism	0.185	0.832	1	0.006	0-0.062
	Inp-Out			1	-	
	Non-Out			0.726	-	
	Non-Inp	1.13	0.33	0.726	0.036	0-0.143
	Inp-Out Stimulation	1 12	0.22	1	0.026	0-0.143
	Non-Out			0.155		
Setting	Non-Inp			0.565	-	
Practice Setting	Self-Direction	1.978	0.147	0.565	0.062	0-0.186
D	8-9	1.0=0	0.1.1	1	0.055	0.0101
	7-9			0.716	_	
	7-8			1	<u> </u>	
	6-9			1		
	6-8			1		
	6-7			1		
	5-9			0.496		
	5-8			1		
	5-7			1		
	5-6			1	1	
	4-9			1	1	
	4-8			1	-	
	4-7			1	-	
	4-6			1	-	
	4-5			1		

	Non-Out			0.3		
	Inp-Out			0.597	-	
	Tradition	0.486	0.618		0.016	0-0.098
	Non-Inp			1		
	Non-Out			1	=	
	Inp-Out			1	-	
	Benevolence	0.451	0.639		0.015	0-0.095
	Non-Inp			1		
	Non-Out			1		
	Inp-Out			1		
	Universalism	1.283	0.285		0.041	0-0.152
	Non-Inp			0.344		
	Non-Out			0.802		
	Inp-Out			1		
Degree	Self-Direction	3.338	0.042*		0.1	0-0.238
Attained	B-M			0.125		
	B-DPT			0.057		
	M-DPT			1		
	Stimulation	0.548	0.581		0.018	0-0.104
	B-M			1		
	B-DPT			0.898		
	M-DPT			1		
	Hedonism	0.462	0.632		0.015	0-0.096
	B-M			1		
	B-DPT			1		
	M-DPT			1		
	Achievement	0.513	0.602		0.017	0-0.101
	B-M			1	=	
	B-DPT			1		
	M-DPT	0	0.5	1		0.0100
	Power	0.611	0.546	0.042	0.02	0-0.109
	B-M			0.843	-	
	B-DPT			1	-	
	M-DPT	1 011	0.172	1	0.057	0.0170
	Security	1.811	0.172	0.901	0.057	0-0.178
	B-M B-DPT			0.891	-	
	M-DPT					
	Conformity	0.029	0.072	1	0.001	0.0.002
	B-M	0.028	0.972	1	0.001	0-0.003
	B-IVI B-DPT			1	-	
	ם-חגו			1]	

	M-DPT			1		
	Tradition	6.624	0.003*		0.181	0.027- 0.331
	B-M			0.005*		
	B-DPT			0.009*		
	M-DPT			1		
	Benevolence	0.848	0.433		0.027	0-0.126
	B-M			0.832		
	B-DPT			0.724		
	M-DPT			1		
	Universalism	1.436	0.246		0.046	0-0.160
	B-M			1		
	B-DPT			0.295		
	M-DPT			1		
Board	Self-Direction	0.814	0.37		0.013	0-0.115
Certification	Stimulation	0	0.983		0	0-0
	Hedonism	1.478	0.229		0.024	0-0.139
	Achievement	2.623	0.11		0.041	0-0.170
	Power	0.178	0.674		0.003	0-0.08
	Security	1.579	0.214		0.025	0-0.142
	Conformity	0.719	0.4		0.012	0-0.111
	Tradition	0.22	0.64		0.004	0-0.083
	Benevolence	0.19	0.664		0.003	0-0.081
	Universalism	0.044	0.834		0.001	0-0.057
Clinical	Self-Direction	0.016	0.834		0	0-0.042
Instructor	Stimulation	1.807	0.184		0.029	0-0.148
	Hedonism	0.227	0.635		0.004	0-0.084
	Achievement	0.585	0.447		0.009	0-0.105
	Power	0.071	0.791		0.001	0-0.065
	Security	1.299	0.259		0.021	0-0.133
	Conformity	0.13	0.72		0.002	0-0.074
	Tradition	0.65	0.423		0.011	0-0.108
	Benevolence	0.038	0.847		0.001	0-0.055
	Universalism	0.031	0.86	F:1 13	0.001	0-0.052

^{*}p < 0.05. Key: 95% CI – 95% confidence intervals, Age Trichotomized: Y (young), M (middle), O (oldest); Years of Practice Trichotomized: L (least), M (middle), H (highest); Region: 1 (Great Lakes), 2 (Mid-Atlantic), 3 (New York/New Jersey), 4 (North East Coast), 5 (Pacific), 6 (South Atlantic), 7 (West-Mountain), 8 (West North-Central), 9 (West South-Central); Practice Setting: Non (Not practicing, academic), Inp (Inpatient), Out (Outpatient); Degree Attained: B (Bachelor's degree), M (Master's Degree), DPT (DPT or tDPT).

Supplemental Table 2: Results of 19 Value Categories Analysis								
Demographic Factor	Value Category	F	<i>p</i> -value	corrected p-value	η²	95% CI		
Age Trichotomized	Self-Direction Thought	0.003	0.997		0	0-0		
TTTCHOCOMIZEU	Y-M			1		ı		
	Y-O			1				
	M-O			1				
	Self-Direction Action	3.428	0.039*		0.103	0-0.242		
	Y-M			0.14		ı		
	Y-O			0.052				
	M-O			1				
	Stimulation	3.095	0.053		0.094	0-0.230		
	Y-M			0.076		1		
	Y-O			1				
	M-O			0.155				
	Hedonism	1.354	0.266		0.043	0-0.156		
	Y-M			1		•		
	Y-O			0.361				
	M-O			0.707				
	Achievement	0.589	0.558		0.019	0-0.107		
	Y-M			1				
	Y-O			1				
	М-О			0.916				
	Power Dominance	0.857	0.429		0.028	0-0.127		
	Y-M			0.725				
	Y-O			0.855				
	M-O		T	1				
	Power Resources	1.71	0.19		0.054	0-0.174		
	Y-M			1				
	Y-O			0.211				
	M-O		1	0.872		_		
	Face	1.924	0.155		0.06	0-0.183		
	Y-M			1	_			
	Y-O			0.164				
	M-O		T	0.891		1		
	Security Personal	0.169	0.845		0.006	0-0.059		
	Y-M			1				
	Y-O			1				

	М-О			1		
	Security Societal	4.696	0.013*		0.135	0.007- 0.281
	Y-M			0.392		
	Y-O			0.01		
	M-O			0.392		
	Tradition	3.037	0.055		0.092	0-0.228
	Y-M			1		
	Y-O			0.055		
	М-О			0.34		
	Conformity	1.432	0.247		0.046	0-0.160
	Rules Y-M	1.132	0.2 . ,	0.311	0.0.0	0 0.100
	Y-O					
	M-O			0.774	-	
	Conformity			0.774		
	Interpersonal	3.606	0.033*		0.107	0-247
	Y-M			1		
	Y-O			0.047		
	M-O			0.114		
	Humility	1.571	0.216		0.05	0.167
	Y-M			1		
	Y-O			1		
	M-O			0.244		
	Universalism Nature	2.178	0.122		0.068	0-0.194
	Y-M			0.206		
	Y-O			1		
	M-O			0.252		
	Universalism Concern	0.386	0.681		0.013	0-0.089
	Y-M			1		•
	Y-O			1		
	M-O			1		
	Universalism Tolerance	3.442	0.038*		0.103	0-0.242
	Y-M			1		
	Y-O			0.06		
	M-O			0.11		
	Benevolence Care	0.906	0.41		0.029	0-0.130
	Y-M			0.963		
	Y-O			1		
	M-O			0.617		
L		1		1		

	Benevolence	0.16	0.052		0.005	0.0050
	Dependability	0.16	0.853		0.005	0-0.058
	Y-M			1		
	Y-O			1		
	М-О			1		
Year of Practice	Self-Direction Thought	0.476	0.624		0.016	0-0.098
Trichotomized	L-M			1		
	L-H			1		
	М-Н			1	_	
	Self-Direction Action	1.979	0.147		0.062	0-0.186
	L-M			0.498		
	L-H			0.178	_	
	M-H			1	1	
	Stimulation	2.234	0.116		0.069	0-0.197
	L-M		0.110	0.181	0.000	0 0.177
	L-H			1		
	M-H			0.265		
	Hedonism	0.455	0.637	0.200	0.015	0-0.096
	L-M	0.133	0.037	1	0.013	0 0.070
	L-H			1		
	M-H			1		
	Achievement	1.906	0.158		0.06	0-0.183
	L-M			0.217		L
	L-H			1	_	
	M-H			0.412		
	Power Dominance	0.426	0.655		0.014	0-0.093
	L-M	•		1		•
	L-H			1		
	M-H			1		
	Power	2.582	0.084		0.079	0-0.211
	Resources	2.362	0.004		0.079	0-0.211
	L-M			0.828		
	L-H			0.08		
	M-H			0.737		1
	Face	0.986	0.379		0.032	0-0.135
	L-M			1		
	L-H			0.625		
	М-Н			0.763		
	Security Personal	0.106	0.9		0.004	0-0.045

L-M			1		
L-H			1		
M-H			1		
Security Societal	5.759	0.005*		0.161	0.017- 0.310
L-M			0.71		0.510
L-H			0.004		
M-H			0.106		
Tradition	2.223	0.117		0.069	0-0.196
L-M		*****	0.781		0 01270
L-H			0.118		
М-Н			1		
Conformity Rules	0.971	0.385		0.031	0-0.134
L-M			0.583		
L-H			0.878	\dashv	
M-H			1		
Conformity			1		
Interpersonal	2.507	0.09		0.077	0-0.208
L-M			1		
L-H			0.113		
M-H			0.3		
Humility	0.192	0.826		0.006	0-0.064
L-M			1		
L-H			1		
M-H			1		
Universalism Nature	0.286	0.753		0.009	0-0.077
L-M			1		
L-H			1		
M-H			1		
Universalism Concern	0.563	0.572		0.018	0-0.105
L-M			1		
L-H			1		
M-H			0.892		
Universalism Tolerance	3.18	0.049*		0.096	0-0.233
L-M			1		
L-H			0.095		
М-Н			0.102	=	
Benevolence Care	0.335	0.717		0.011	0-0.083
L-M			1		
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	L-H			1		
	M-H			1		
	Benevolence Dependability	0.677	0.512		0.022	0-0.114
	L-M			1		•
	L-H			0.805		
	М-Н			1		
Gender	Self-Direction Thought	0.889	0.416		0.029	0-0.129
	Self-Direction Action	1.713	0.189		0.054	0-0.174
	Stimulation	0.997	0.375		0.032	0-0.135
	Hedonism	0.76	0.472		0.025	0-0.120
	Achievement	0.011	0.989		0	0
	Power Dominance	0.306	0.738		0.010	0-0.080
	Power Resources	0.897	0.413		0.029	0-0.129
	Face	0.476	0.624		0.016	0-0.098
	Security Personal	0.469	0.628		0.015	0-0.097
	Security Societal	1.295	0.282		0.041	0-0.153
	Tradition	0.637	0.532		0.021	0-0.111
	Conformity Rules	0.834	0.439		0.027	0-0.125
	Conformity Interpersonal	0.836	0.438		0.027	0-0.125
	Humility	1.021	0.366		0.033	0-0.137
	Universalism Nature	0.603	0.55		0.020	0-0.108
	Universalism Concern	0.243	0.785		0.008	0-0.072
	Universalism Tolerance	0.593	0.556		0.019	0-0.107
	Benevolence Care	0.65	0.526		0.021	0-0.112
	Benevolence Dependability	0.053	0.948		0.002	0-0.023
Region	Self-Direction Thought	1.356	0.237		0.167	0-0.238
	1-2			0.856		
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Self-Direction	0.73	0.664		0.098	0-0.137
Action 1-2			1		
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Stimulation	0.484	0.862	1	0.067	0-0.079
1-2	0.707	0.002	1	0.007	0-0.07
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 	Hedonism	0.598	0.775		0.081	0-0.108
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Achievement	1.051	0.411		0.135 0-0.194
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	Security Personal	0.556	0.809		0.076	0-0.098
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Security Societal	0.828	0.582		0.109	0-0.156
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Tradition	1.049	0.412		0.134	0-0.193
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Conformity	1.11	0.371		0.141	0-0.203
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Conformity	0.026	0.504		0.100	0.0177
Interpersonal	0.826	0.584		0.109	0-0.155
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Humility	0.966	0.472		0.125	0-0.180
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Universalism	1.054	0.409	1	0.135	0-0.194
Universalism Nature	1.054	0.409		0.135	0-0.194
Universalism Nature	1.054	0.409	1	0.135	0-0.194
Universalism Nature 1-2 1-3	1.054	0.409	1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4	1.054	0.409	1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5	1.054	0.409	1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6	1.054	0.409	1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7	1.054	0.409	1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8	1.054	0.409	1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9	1.054	0.409	1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3	1.054	0.409	1 1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4	1.054	0.409	1 1 1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4 2-5	1.054	0.409	1 1 1 1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4 2-5 2-6	1.054	0.409	1 1 1 1 1 1 1 1 1 1 1	0.135	0-0.194
1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4 2-5 2-6 2-7	1.054	0.409	1 1 1 1 1 1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4 2-5 2-6 2-7 2-8	1.054	0.409	1 1 1 1 1 1 1 1 1 1 1 1 1	0.135	0-0.194
1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4 2-5 2-6 2-7 2-8 2-9	1.054	0.409	1 1 1 1 1 1 1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4 2-5 2-6 2-7 2-8 2-9 3-4	1.054	0.409	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4 2-5 2-6 2-7 2-8 2-9 3-4 3-5	1.054	0.409	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.135	0-0.194
Universalism Nature 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-3 2-4 2-5 2-6 2-7 2-8 2-9 3-4	1.054	0.409	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.135	0-0.194

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Universalism	1 212	0.21		0.150	0.0.210
Concern	1.212	0.31		0.152	0-0.218
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Universalism	2.223	0.04*		0.248	0-0.333
Tolerance			1		
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	2-4			1		
	2-5			1		
	2-6			1		
	2-7			1		
	2-8			1		
	2-9			1		
	3-4			1		
	3-5			1		
	3-6			1		
	3-7			1		
	3-8			1		
	3-9			1		
	4-5			1		
	4-6			1		
	4-7			1		
	4-8			1		
	4-9			1		
	5-6			1		
	5-7			1		
	5-8			1		
	5-9			1		
	6-7			1		
	0-7			•		

(0			1	1	
6-8			1		
6-9			1		
7-8			1		
7-9			1		
8-9			1		
Benevolence Dependability	0.563	0.803		0.077	0-0.099
1-2			1		
1-3			1		
1-4			1		
1-5			1		
1-6			1		
1-7			1		
1-8	1		1	-	
1-9			1	1	
2-3			1	-	
2-4			1		
2-5			1	-	
2-6	_		1	-	
2-7			1	-	
2-8	_		1	-	
2-9			1	-	
3-4			1	-	
3-5			1	-	
3-6			1		
3-7			1	_	
3-8			1	_	
3-9	_		1	-	
4-5			1		
4-6			1		
4-7			1	-	
4-8			1	-	
4-9			1	-	
5-6			1	-	
5-7			1	_	
5-8			1		
5-9			1	-	
6-7			1		
6-8			1		
6-9			1		
7-8			1	_	
7-9			1		

	8-9			1		
Practice Setting	Self-Direction Thought	3.06	0.054		0.093	0-0.229
	Non-Inp			0.276		'
	Non-Out			0.049		
	Inp-Out			1		
	Self-Direction Action	0.377	0.687		0.012	0-0.088
	Non-Inp			1		
	Non-Out			1		
	Inp-Out			1		
	Stimulation	1.13	0.33		0.036	0-0.143
	Non-Inp			0.726		
	Non-Out			0.42		
	Inp-Out			1		
	Hedonism	0.185	0.832		0.006	0-0.062
	Non-Inp			1		
	Non-Out			1		
	Inp-Out			1		
	Achievement	0.07	0.932		0.002	0-0.032
	Non-Inp			1		
	Non-Out			1		
	Inp-Out			1		
	Power Dominance	0.667	0.517		0.022	0-0.113
	Non-Inp			1		
	Non-Out			1		
	Inp-Out			0.852		
	Power Resources	2.902	0.063		0.088	0-0.223
	Non-Inp			0.085		
	Non-Out			0.948		
	Inp-Out			0.194		
	Face	0.556	0.576		0.018	0-0.105
	Non-Inp			0.895		
	Non-Out			1		
	Inp-Out			1		
	Security Personal	0.164	0.849		0.005	0-0.058
	Non-Inp			1		
	Non-Out			1		
	Inp-Out			1		

Security	0.276	0.76		0.009	0-0.076
Societal Non Jan			1		
Non-Inp Non-Out			1		
Inp-Out			1		
Tradition	0.541	0.585	1	0.018	0-0.103
	_	0.383	1	0.018	0-0.103
Non-Inp Non-Out			0.909		
			1		
Inp-Out Conformity			1		
Rules	0.028	0.973		0.001	0-0.003
Non-Inp			1		
Non-Out			1		
Inp-Out			1		
Conformity Interpersonal	2.785	0.07		0.085	0-0.219
Non-Inp			1		
Non-Out			0.127		
Inp-Out			0.354		
Humility	0.267	0.767		0.009	0-0.075
Non-Inp			1		
Non-Out			1		
Inp-Out			1		
Universalism Nature	1.291	0.283		0.041	0-0.152
Non-Inp			0.425		
Non-Out			0.424		
Inp-Out			1		
Universalism	3.188	0.048*		0.096	0.0.222
Concern		0.048		0.090	0-0.233
Non-Inp			0.058		
Non-Out			0.718		
Inp-Out			0.195		
Universalism Tolerance	0.21	0.811		0.007	0-0.067
Non-Inp			1		
Non-Out			1		
Inp-Out			1		
Benevolence Care	1.291	0.282		0.041	0-0.152
Non-Inp		1	1		
Non-Out			0.97		
Inp-Out	_		0.351		

	Security Personal	0.039	0.962		0.001	0-0.013
	M-DPT			0.078		
	B-DPT			0.417		
	B-M	2.030	0.003	1	0.087	0-0.221
	Face	2.858	0.065	1	0.087	0-0.221
	M-DPT			1	_	
	B-M B-DPT			0.768		
	Resources	2.101	V.12 I	0.769	0.007	0 0.171
	Power	2.164	0.124		0.067	0-0.194
	M-DPT			0.428		
	B-DPT			0.821		
	В-М			1		1
	Power Dominance	1.283	0.285		0.041	0-0.152
	M-DPT			1	1	
	B-DPT			1	\dashv	
	B-M	0.515	0.002	1	0.017	0-0.101
	Achievement	0.513	0.602	1	0.017	0-0.101
	M-DPT			1	_	
	B-M B-DPT			1		
	Hedonism	0.462	0.632	1	0.015	0-0.096
	M-DPT	0.4.5	0.777	1	0.515	
	B-DPT			0.898		
	B-M			1		
	Stimulation	0.548	0.581		0.018	0-0.104
	M-DPT			1		
	B-DPT			0.396		
	B-M			1		I
	Self-Direction Action	1.183	0.314		0.038	0-0.146
	M-DPT	1		1		<u> </u>
	B-DPT			0.179		
	B-M			0.117		
Degree Attained	Self-Direction Thought	2.659	0.078		0.081	0-0.214
	Inp-Out			0.467		<u> </u>
	Non-Out			0.649		
	Non-Inp			0.109		
	Benevolence Dependability	2.377	0.102		0.073	0-0.203

B-M			1		
B-DPT			1		
M-DPT			1		
Security Societal	2.251	0.114		0.07	0-0.137
B-M			0.624		
B-DPT			0.115		
M-DPT			1		
Tradition	5.369	0.007*		0.152	0.013- 0.300
B-M			0.027		
B-DPT			0.011		
M-DPT			1		
Conformity Rules	0.648	0.527		0.021	0-0.112
B-M			1		
B-DPT			0.788		
M-DPT			1		
Conformity Interpersonal	0.411	0.665		0.014	0-0.091
B-M			1		
B-DPT			1		
M-DPT			1		
Humility	0.992	0.377		0.032	0-0.135
B-M			0.492		
B-DPT			1		
M-DPT			1		
Universalism Nature	0.89	0.416		0.029	0-0.129
B-M			1		
B-DPT			0.959		
M-DPT			0.719		
Universalism Concern	1.172	0.317		0.038	0-0.146
B-M			0.398		
B-DPT			1		
M-DPT			1		
Universalism Tolerance	1.842	0.167		0.058	0-0.180
B-M			1		
B-DPT			0.209		
M-DPT			0.744		
Benevolence Care	0.154	0.858		0.005	0-0.056

B-DPT M-DPT		B-M			1		
M-DPT	-						
Benevolence Dependability 1.022 0.366 0.033 0-0.137							
B-M B-DPT		Benevolence	1.022	0.366		0.033	0-0.137
B-DPT M-DPT	-				0.859		
M-DPT	_						
Self-Direction Thought Self-Direction Action 0.384 0.538 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.095 0.006 0-0.033 0-0.139 0.004 0-0.139 0.004 0-0.104 0.009 0-0.104 0.009 0-0.104 0.009 0-0.104 0.009 0-0.104 0.009 0-0.104 0.009 0-0.104 0.009 0-0.104 0.009 0-0.104 0.009 0-0.104 0.009 0-0.043 0.001 0-0.043 0.001 0-0.082 0.001 0-0.082 0.001 0-0.082 0.001 0-0.064 0.001 0-0.064 0.001 0-0.064 0.001 0-0.057 0.001 0							
Thought Self-Direction Action 0.384 0.538 0.006 0-0.095	Roard				1		
Self-Direction Action 0.384 0.538 Stimulation 0 0.983 Hedonism 1.478 0.229 Achievement 2.623 0.11 Power Dominance 0.552 0.46 Power Resources 0.017 0.897 Face 1.123 0.293 Security Personal 0.208 0.65 Security Societal 2.528 0.117 Tradition 0.07 0.793 Conformity Rules 0.042 0.838 Conformity Interpersonal 0.83 0.366 Humility 1.853 0.178 Universalism Nature 0.633 0.429 Universalism Concern 1.189 0.28 Universalism Concern 1.189 0.28			2.1	0.152		0.033	0-0.157
Stimulation 0 0.983 0 0 0		Ù	0.294	0.529		0.006	0.0.005
Hedonism	_		0.364	0.336		0.000	0-0.093
Achievement 2.623 0.11 Power Dominance 0.552 0.46 Power Resources 0.017 0.897 Face 1.123 0.293 Security Personal 0.208 0.65 Security Societal 2.528 0.117 Tradition 0.07 0.793 Conformity Rules 0.042 0.838 Conformity Interpersonal Humility 0.83 0.366 Humility 1.853 0.178 Universalism Nature 0.633 0.429 Universalism Concern 1.189 0.28 Universalism Concern 1.189 0.28 Universalism Concern 1.189 0.28	<u>_</u>		0	0.983		0	0
Power Dominance 0.552 0.46 Power Resources 0.017 0.897 Face 1.123 0.293 Security Personal 0.208 0.65 Security Societal 2.528 0.117 Tradition 0.07 0.793 Conformity Rules 0.042 0.838 Conformity Interpersonal Humility 0.83 0.366 Humility 1.853 0.178 Universalism Nature 0.633 0.429 Universalism Concern 1.189 0.28 Universalism Concern 1.189 0.28 Universalism Concern 1.189 0.28			1.478	0.229		0.024	0-0.139
Dominance 0.552 0.46 Power Resources 0.017 0.897 0 0-0.043 Face 1.123 0.293 0.018 0-0.127 Security Personal 0.208 0.65 0.003 0-0.082 Security Societal 2.528 0.117 0.04 0-0.168 Tradition 0.07 0.793 0.001 0-0.064 Conformity Rules 0.042 0.838 0.001 0-0.057 Conformity Interpersonal 0.83 0.366 0.013 0-0.016 Humility 1.853 0.178 0.029 0-0.150 Universalism Concern 0.633 0.429 0.010 0-0.107 Universalism Concern 1.189 0.28 0.019 0-0.129		Achievement	2.623	0.11		0.041	0-0.170
Resources 0.017 0.897 Face 1.123 0.293 Security 0.208 0.65 Personal 0.003 0-0.082 Security 2.528 0.117 Societal 0.07 0.793 0.001 0-0.064 Conformity 0.042 0.838 0.001 0-0.057 Conformity 0.83 0.366 0.013 0-0.016 Humility 1.853 0.178 0.029 0-0.150 Universalism 0.633 0.429 0.010 0-0.107 Universalism 1.189 0.28 0.019 0-0.129		Dominance	0.552	0.46		0.009	0-0.104
Security Personal 0.208 0.65 Security Societal 2.528 0.117 Tradition 0.07 0.793 Conformity Rules 0.042 0.838 Conformity Interpersonal 0.83 0.366 Humility 1.853 0.178 Universalism Nature 0.633 0.429 Universalism Concern 1.189 0.28 Universalism Concern 1.189 0.28			0.017	0.897		0	0-0.043
Personal 0.208 0.83 0.003 0-0.082 Security 2.528 0.117 0.04 0-0.168 Tradition 0.07 0.793 0.001 0-0.064 Conformity Rules 0.042 0.838 0.366 0.013 0-0.016 Humility 1.853 0.178 0.029 0-0.150 Universalism Nature 0.633 0.429 0.010 0-0.107 Universalism Concern 1.189 0.28 0.019 0-0.129	[Face	1.123	0.293		0.018	0-0.127
Societal 2.328 0.117 0.04 0-0.168 Tradition 0.07 0.793 0.001 0-0.064 Conformity Rules 0.042 0.838 0.001 0-0.057 Conformity Interpersonal Humility 1.853 0.178 0.029 0-0.150 Universalism Nature 0.633 0.429 0.010 0-0.107 Universalism Concern 1.189 0.28 0.019 0-0.129		ū	0.208	0.65		0.003	0-0.082
Conformity Rules 0.042 0.838 0.001 0-0.057 Conformity Interpersonal Humility 0.83 0.366 0.013 0-0.016 Universalism Nature 0.633 0.429 0.010 0-0.107 Universalism Concern 1.189 0.28 0.019 0-0.129			2.528	0.117		0.04	0-0.168
Rules 0.042 0.838 0.001 0-0.057 Conformity Interpersonal 0.83 0.366 0.013 0-0.016 Humility 1.853 0.178 0.029 0-0.150 Universalism Nature 0.633 0.429 0.010 0-0.107 Universalism Concern 1.189 0.28 0.019 0-0.129		Tradition	0.07	0.793		0.001	0-0.064
Interpersonal 0.83 0.366 0.013 0-0.016			0.042	0.838		0.001	0-0.057
Universalism Nature 0.633 0.429 0.010 0-0.107 Universalism Concern 1.189 0.28 0.019 0-0.129 Universalism 1.189 0.28 0.019 0-0.129		Interpersonal	0.83	0.366		0.013	0-0.016
Nature 0.633 0.429 0.010 0-0.107 Universalism Concern 1.189 0.28 0.019 0-0.129		•	1.853	0.178		0.029	0-0.150
Concern 1.189 0.28 0.019 0-0.129			0.633	0.429		0.010	0-0.107
Universalism		Concern	1.189	0.28		0.019	0-0.129
Tolerance 0.3/4 0.543 0.006 0-0.094			0.374	0.543		0.006	0-0.094
Benevolence Care 0.262 0.611 0.004 0-0.087		Care	0.262	0.611		0.004	0-0.087
Benevolence Dependability 1.355 0.249 0.022 0-0.135			1.355	0.249		0.022	0-0.135
Clinical InstructorSelf-Direction Thought0.1470.7020.0020-0.076			0.147	0.702		0.002	0-0.076
Self-Direction Action 0.936 0.337 0.015 0-0.120			0.936	0.337		0.015	0-0.120
Stimulation 1.807 0.184 0.029 0-0.148			1.807	0.184		0.029	0-0.148
Hedonism 0.227 0.635 0.004 0-0.084	[Hedonism	0.227	0.635		0.004	0-0.084
Achievement 0.585 0.447 0.009 0-0.105		Achievement	0.585	0.447		0.009	0-0.105

	Power Dominance	0.052	0.82		0.001	0-0.060
	Power Resources	0.032	0.859		0.001	0-0.053
	Face	0.025	0.875		0	0-0.049
	Security Personal	0.735	0.394		0.012	0-0.112
	Security Societal	0.466	0.497		0.008	0-0.099
	Tradition	0.026	0.871		0	0-0.050
	Conformity Rules	0.659	0.42		0.011	0-0.109
	Conformity Interpersonal	0.062	0.804		0.001	0-0.063
	Humility	3.243	0.077		0.05	0-0.185
	Universalism Nature	0.221	0.64		0.004	0-0.083
	Universalism Concern	0.228	0.634		0.004	0-0.084
	Universalism Tolerance	0.099	0.754		0.002	0-0.070
	Benevolence Care	0.592	0.445		0.01	0-0.106
* .005 H	Benevolence Dependability	0.174	0.678	0 (11) W	0.003	0-0.079

^{*}p < 0.05. Key: Age Trichotomized: Y (young), M (middle), O (oldest); Years of Practice Trichotomized: L (least), M (middle), H (highest); Region: 1 (Great Lakes), 2 (Mid-Atlantic), 3 (New York/New Jersey), 4 (North East Coast), 5 (Pacific), 6 (South Atlantic), 7 (West-Mountain), 8 (West North-Central), 9 (West South-Central); Practice Setting: Non (Not practicing, academic), Inp (Inpatient), Out (Outpatient); Degree Attained: B (Bachelor's degree), M (Master's Degree), DPT (DPT or tDPT).

Chapter 4

Physical Therapist Educational Program Values: A Thematic Coding of Mission and Vision Statements

ABSTRACT

Purpose: This study explores the values expressed in the mission and vision statements of a sample of entry-level Doctor of Physical Therapy (DPT) academic programs.

Methods: A proportional stratified random sample using the American Council of Academic Physical Therapy (ACAPT) geographic regions and Carnegie Classification of Institutions of Higher Education was used to select 51 entry-level Doctor of Physical Therapy (DPT) academic programs from which mission statements and available vision statements were obtained, reviewed, analyzed, and thematically coded. Coding for each statement was completed independently by two investigators with consensus achieved via discussion.

Results: Thirty codes within four overarching categories were identified: the graduate, the program, the educational environment, and the faculty. Academic program mission statements placed a high priority on the graduate specifically regarding Society/Community/Social Responsibility (N=25, 49%) and Competence/Critical Thinking/Clinical Reasoning (N=25, 49%). Academic programs also identified Scholarship/Research in over half of mission statements though it was cross-categorical (N=28, 54.9%). Vision statements emphasized the program with high utilization of Society/Community/Social Responsibility (N=8, 36.4%), Recognition (N=9, 40.9%), and Excellence (N=9, 40.9%). Scholarship/Research, and the educational environment and

the faculty were mentioned with lesser frequency across mission and vision statements (14.1% and 10.1%, respectively).

Conclusion: Entry-level DPT academic program mission and vision statements speak to shared values related to *Society/Community/Social Responsibility* for both *the graduate* and *the program*. However, the diversity in priorities and values espoused by the statements suggests a wide range of defining programmatic traits and aims bringing individuality to entry-level DPT academic programs.

Physical Therapist Educational Program Values: A Thematic Coding of Mission and Vision Statements

Introduction

There are nearly 270 accredited entry-level Doctor of Physical Therapy (DPT) academic programs in the United States who educate and graduate over 10,000 entry-level physical therapists annually. The Commission on the Accreditation of Physical Therapy Education (CAPTE), the accrediting body of physical therapy (PT) education, establishes required educational standards for all academic programs and ensures minimum criteria are met. The first element of any academic program is Standard 1, Required Element 1A: "The mission of the program is written and compatible with the mission of the institution, with the unit(s) in which the program resides, and with contemporary preparation of physical therapists." Evidence to satisfy this element ought to demonstrate congruency and consistency with contemporary clinical practice and profession expectations within the academic program and institution.

The Excellence Framework for PT Education developed by the American Council of Academic Physical Therapy (ACAPT) identifies twelve critical categories for promoting excellence in physical therapist education.³ The culture of the institution and academic unit are essential, being explicitly linked to mission, vision, and goals. The culture of the academic unit is to "enhance institution/academic unit mission, vision and intended goals" as well as create an environment where "strategic action to advance the mission is shared." Leadership is charged with fostering "alignment with the vision, mission and goals." Institutional culture, structure, and process and the academic unit's leadership and culture are essential to each of the criteria. Mission statements act as a

formal summary of the aims and purpose of an academic program, exhibiting why it exists and expressing any unique or defining features.⁴ In conjunction with mission statements, vision statements express the future aims and goals of an academic program, directing resources and foresight to future objectives and strategic plans (4). The mission and vision state why the program exists, what a program does, and what it hopes to do. The mission and vision statements of each academic program can serve as the foundational and unifying variable for excellence in PT education.

The American Physical Therapy Association's (APTA) Guide to Physical Therapy Practice 4.0 describes practice and its foundational components from educational preparation to roles and responsibilities, opportunities, and professional trajectories through various evidence-based frameworks, theories, and principles. The Guide identifies three core concepts relevant to education and clinical practice: (1) evidence-based practice (EBP); (2) quality assessment and outcomes; and (3) professional values. ⁵ Historically, professional values in physical therapy are grounded in the APTA Core Values for the Physical Therapist and Physical Therapist Assistant (APTACV) which guide professional behaviors and conduct.⁶ CAPTE requires instruction and behaviors consistent with the APTACV in Standard 7, Required Elements 7D5 and 7D6 while awareness and respect for the values of others is found in Required Elements 7D8 and 7D11.2 Academic programs are charged with the responsibility to guide, develop, and influence value and professional identity formation of learners through didactic and clinical education curricula paired with modeling from academic and clinical faculty. Professional values, including the APTACV, may be expressed within the culture of an institution or academic program and are often found within its

mission and vision statements. A greater understanding of the espoused priorities and values of entry-level DPT academic programs may greatly inform the professional formation process of learners and future professionals.

This study explores the values expressed in the mission and vision statements of a sample of entry-level Doctor of Physical Therapy (DPT) academic programs. The investigators hypothesize that certain values are commonly shared by entry-level DPT academic programs though distinct and unique variations exist.

Methods

Program Selection

A complete list of accredited entry-level DPT programs was identified from the ACAPT 2020 listing of programs within the United States. Additional published program characteristics were reported, including geographic region, Carnegie classification, public/private, institution type, religious affiliation, and institution size. Following stratified randomization, mission and available vision statements were collected from respective program webpages and online student handbooks. This study was approved by the institutional IRB (Appendix A).

Proportional stratified random sampling was implemented with two strata to ensure representation of geographical region distribution and Carnegie classification. The geographical region, as defined by ACAPT, was chosen to adequately represent dispersion of programs and capture potential regional differences across the United States. Carnegie Classification of Institutions of Higher Education was selected as the second strata as it is a comprehensive framework that is commonly utilized in

classification of higher education institutions.⁹ Randomization of programs based on strata was performed using Google Sheets software.¹⁰

Data Analysis

Initially, a deductive semantic approach to coding was trialed by one investigator utilizing the APTACV as individual codes. However, many goals, outcomes, and values of mission and vision statements were broader than the APTACV, applying across multiple categories. Thus, qualitative thematic coding of academic program mission and values statements followed an inductive semantic approach, allowing for greater depth and breadth of analysis. 11 Initially, eight program mission and vision statements were coded in tandem by three investigators. Two investigators identified twenty-seven codes across four overarching categories and independently coded all mission and vision statements. Coding consensus was achieved via discussion where discrepancies existed. Three additional codes were generated during investigator discussions to optimize clarity and specificity of codes. Figure 1 illustrates the qualitative data analysis process and resulting categories, codes, and respective units of meaning. Upon consensus coding for each mission and vision statement, frequencies and percentages were calculated. Code saturation was attained post-hoc using the method developed by Guest, Namey, and Chen after coding 16 statements (base of 8 and run of 4) saturation dropped below 5%, suggesting the chance of identifying further codes was minimal, though one additional code was established.¹²

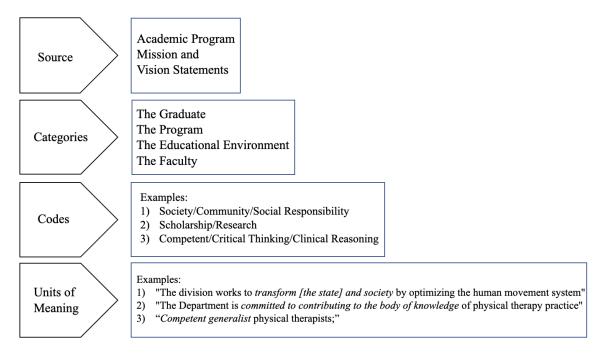


Figure 1. Map of Categories, Codes and Units of Meaning

Results

Stratified randomization of ACAPT listed, entry-level, DPT academic programs resulted in a sample of 52 programs. One institution merged programs with another and represented a duplication which was removed. Table 1 shows the resulting 51 academic program demographics with comparison to the overall demographics of the total program list. The resulting sample closely matched the proportional characteristics of programs with only five program characteristics (Mid-Atlantic Region, Public Institution, Private Institution, Academic Health Centers, Liberal Arts Universities) varying by more than 5% from the original sample (5.1-10.8%) after stratified randomization.

Table 1: Entry-level DPT Academic Program Characteristics (ACAPT listed)					
		Selected	Total		
		Programs	Programs		
		N (%)	N (%)		
	Total	51 (20.6)	252		
Geographic	East North Central	6 (11.7)	35 (13.9)		
Region	East South Central	1 (2.0)	15 (6.0)		
	Mid Atlantic	1 (2.0)*	18 (7.1)		

İ		2 (7 0)	40 (50)
	Mountain	3 (5.9)	13 (5.2)
	New England	5 (9.8)	18 (7.1)
	NY/NJ Posifia	7 (13.7)	26 (10.3)
	Pacific	4 (7.8)	21 (8.3)
	South Atlantic	10 (19.6)	51 (20.2)
	West North Central	7 (13.7)	29 (11.5)
G :	West South Central	7 (13.7)	26 (10.3)
Carnegie	Baccalaureate Colleges – Arts & Sciences	-	1 (0.4)
Classification	Baccalaureate Colleges – Diverse Fields	1 (2.0)	3 (1.2)
	Doctoral/Research Universities	4 (7.8)	15 (6.0)
	Master's Colleges and Universities (larger)	11 (21.6)	65 (25.8)
	Master's Colleges and Universities (medium)	3 (5.9)	15 (6.0)
	Master's Colleges and Universities (smaller)	2 (3.9)	11 (4.4)
	Not Classified	1 (2.0)	2 (0.8)
	Research Universities (high research activity)	7 (13.7)	32 (12.7)
	Research Universities (very high research activity)	7 (13.7)	37 (14.7)
	Special Focus Institutions – Medical schools & centers	6 (11.8)	30 (11.9)
	Special Focus Institutions – Other health professions	1 (2.0)	8 (3.2)
	Not Listed	8 (15.7)	33 (13.1)
Public vs	Public	23 (45.1)*	132 (52.4)
Private	Private	28 (54.9)*	119 (47.2)
	Not Listed	-	1 (0.4)
Institution	Academic Health Science Center	10 (19.6)*	66 (26.2)
Type	Liberal Arts 4 year	3 (5.9)	26 (10.3)
	Liberal Arts University	27 (52.9)*	10 (42.1)
	Osteopathic Medical School	1 (2.0)	68 (3.2)
	Professional School	2 (2 0)	7 (2.8)
	Proprietary	2 (3.9)	4 (1.6)
	Technological School	0 (15.7)	1 (0.4)
	Not Listed	8 (15.7)	34 (13.5)
Religious	7th Day Adventist	-	2 (0.8)
Affiliation	Baptist	2 (3.9)	4 (1.6)
	Catholic	4 (7.8)	21 (8.3)
	Church of God	-	1 (0.4)
	Disciples of Christ	-	2 (0.8)
	Jesuit	2 (3.9)	6 (2.4)
	Lutheran	-	1 (0.4)
	Presbyterian	1 (2.0)	2 (0.8)
	United Church of Christ	1 (2.0)	3 (1.2)
	United Methodist	1 (2.0)	7 (2.8)
Institution	None V. Sarall (1,000 or favor)	41 (80.4)	203 (80.6)
Institution	X-Small (1,000 or fewer)	2 (3.9)	16 (6.3)
Size	Small (1,001-4,000) Medium (4,001-10,000)	15 (29.4)	79 (31.3)
	Large (10,001-20,000)	10 (19.6) 9 (17.6)	45 (17.9)
	X-Large (20,001 or more)	9 (17.6) 6 (11.6)	45 (17.9) 32 (12.7)
	Not Listed	9 (17.6)	35 (12.7) 35 (13.9)
	Not Listed	7 (17.0)	33 (13.7)

^{*}Denotes differences > 5% between all programs and included programs.

The qualitative analysis and thematic coding process resulted in 30 unique codes across four overarching categories: *the graduate, the program, the educational environment*, and *the faculty*. Table 2 and Table 3 provide the frequency distribution

across all 30 codes within each of the four categories with summative columns including percentage of total codes as well as the number of statements identifying the code regardless of category. Compiled data across the four categories of mission statements suggested that *Society/Community/Social Responsibility* (N=35, 9.2%), *Scholarship/Research* (N=32, 8.4%), and *Competence/Critical Thinking/Clinical Reasoning* (N=29, 7.6%) were most valued by academic programs. Additionally, the summative data for vision statements indicated that *Society/Community/Social Responsibility* and *Leader/Leadership* (N=13, 10.9%), followed by three codes: *Recognition, Scholarship/Research* and *Excellence* (N=9, 7.6%) were ranked priorities of academic programs. Most mission codes pertained to *the graduate* (N=242, 63.4%), whereas the vision codes strongly spoke to *the program* (N=72, 60.5%).

As illustrated in Table 2 mission statements, the highest frequencies in any of the four categories were for *the graduate* relating to *Society/Community/Social Responsibility* and *Competence/Critical Thinking/Clinical Reasoning* (N=25, 49.0%). For *the program* codes used with greatest frequency were *Scholarship/Research* (N=16, 31.4%) followed by *Service/Service-oriented* (N=11, 21.6%) and *Excellence* (N=9, 17.6%). *The educational environment* utilized codes pertaining to *Service/Service-oriented* and *Learner-centered* most frequently (N=5, 9.8%). *The faculty* category comprised 2.3% of codes and related most to *Scholarship/Research* (N=4, 7.8%). *Scholarship/Research* was also utilized across categories by most programs (N=28, 54.9%).

Of the 51 academic programs sampled, 22 programs had available vision statements (N=22, 43.1%). As identified in Table 3 vision statements, *the program* category was utilized with greatest frequency (N=72, 60.5%) with the most used codes

being *Recognition* and *Leaders/Leadership* (N=9, 40.9). Codes most utilized in reference to *the graduate* included *Leaders/Leadership* and *Society/Community/Social Responsibility* (N=4, 18.2). Codes specific to the educational environment were utilized nine times (N=9, 7.5%) while only four codes pertained to the faculty (N=4, 3.4%).

Table 2. Codes for Academic Program Mission Statements						
	Total Codes	Number of Statements	Graduate	Program	Educational Env.	Faculty
	N=382 (%)	N=51 (%)	N=242 (%)	N=86 (%)	N=45 (%)	N=9 (%)
Society/Community/Social Responsibility	35 (9.2)	31 (60.8)	25 (49.0)	8 (15.7)	1 (2.0)	1 (2.0)
Scholarship/Research	32 (8.4)	28 (54.9)	9 (17.6)	16 (31.4)	3 (5.9)	4 (7.8)
Competent/Critical Thinking/Clinical Reasoning	29 (7.6)	27 (52.9)	25 (49.0)	2 (3.9)	2 (3.9)	-
Service/Service-oriented	26 (6.8)	25 (49.0)	10 (19.6)	11 (21.6)	5 (9.8)	-
Evidence-based Practice	22 (5.8)	22 (43.1)	15 (29.4)	3 (5.9)	4 (7.8)	-
Leaders/Leadership	21 (5.5)	19 (37.3)	13 (25.5)	6 (11.8)	-	2 (3.9)
Movement/Rehab Science	20 (5.2)	19 (37.3)	15 (29.4)	3 (5.9)	2 (3.9)	-
Excellence	19 (5.0)	17 (33.3)	8 (15.7)	9 (17.6)	1 (2.0)	1 (2.0)
Collaborative/Collaboration/ Partnership	18 (4.7)	18 (35.3)	11 (21.6)	4 (7.8)	3 (5.9)	-
Health/Wellness/Health Promotion	18 (4.7)	18 (35.3)	13 (25.5)	5 (9.8)	-	-
Ethical/Moral/Legal	16 (4.2)	15 (29.4)	13 (25.5)	-	2 (3.9)	1 (2.0)
Humanistic/Humanitarian	15 (3.9)	14 (27.5)	13 (25.5)	-	2 (3.9)	-
Lifelong Learning	15 (3.9)	15 (29.4)	11 (21.6)	3 (5.9)	1 (2.0)	=
Autonomous Practice	12 (3.1)	12 (23.5)	12 (23.5)	-	-	=
Adaptive/Dynamic Healthcare Environment	11 (2.9)	11 (21.6)	8 (15.7)	2 (3.9)	1 (2.0)	-
Diversity/Openness/Cultural Awareness	11 (2.9)	9 (17.6)	8 (15.7)	1 (2.0)	2 (3.9)	-
Advance Profession	7 (1.8)	7 (13.7)	2 (3.9)	5 (9.8)	-	-
Faith-Based	7 (1.8)	7 (13.7)	5 (9.8)	2 (3.9)	-	-
Inclusive/Equity	7 (1.8)	6 (11.8)	1 (2.0)	2 (3.9)	4 (7.8)	-
Reflective/Self-aware	7 (1.8)	6 (11.8)	6 (11.8)	-	1 (2.0)	-
Expert	6 (1.6)	6 (11.8)	6 (11.8)	-	-	-
Innovation/Innovativeness	6 (1.6)	6 (11.8)	2 (3.9)	2 (3.9)	2 (3.9)	-
Patient-Centered	6 (1.6)	6 (11.8)	6 (11.8)	-	-	-
Learner Centered	5 (1.3)	5 (9.8)	-	-	5 (9.8)	-
Advocacy/Advocate	3 (0.8)	3 (5.9)	2 (3.9)	1 (2.0)	-	-
Collegial/Supportive	2 (0.5)	2 (3.9)	-	-	2 (3.9)	-
Primary Professional/Provider	2 (0.5)	2 (3.9)	2 (3.9)	-	-	-
Recognition	2 (0.5)	2 (3.9)	1 (2.0)	1 (2.0)	-	-
Faculty-centered	1 (0.3)	1 (2.0)	-	-	1 (2.0)	-
Stewardship/Resource Utilization	1 (0.3)	1 (2.0)	-		1 (2.0)	-

Table 3. Codes for Academ	Total	Number of	Graduate	Duoguan	Educational	Faculty
	Codes	Statements	Graauate	Program	Env.	<i>Faculty</i>
	N=119 (%)	N=22 (%)	N=34 (%)	N=72 (%)	N=9 (%)	N=4 (%)
Society/Community/Social Responsibility	13 (10.9)	13 (59.1)	4 (18.2)	8 (36.4)	1 (4.5)	-
Leaders/Leadership	13 (10.9)	12 (54.5)	4 (18.2)	9 (40.9)	-	-
Recognition	9 (7.6)	9 (40.9)	-	9 (40.9)	-	-
Excellence	9 (7.6)	8 (36.4)	1 (4.5)	6 (27.3)	1 (4.5)	1 (4.5)
Scholarship/Research	9 (7.6)	8 (36.4)	-	6 (27.3)	2 (9.1)	1 (4.5)
Service/Service-oriented	8 (6.7)	8 (36.4)	2 (9.1)	6 (27.3)	-	-
Innovation/Innovativeness	7 (5.9)	7 (31.8)	-	5 (22.7)	1 (4.5)	1 (4.5)
Collaborative/Collaboration/ Partnership	6 (5.0)	6 (27.3)	2 (9.1)	4 (18.2)	-	-
Diversity/Openness/Cultural Awareness	6 (5.0)	6 (27.3)	2 (9.1)	4 (18.2)	-	-
Movement/Rehab Science	5 (4.2)	5 (22.7)	2 (9.1)	3 (13.6)	-	-
Ethical/Moral/Legal	4 (3.4)	4 (18.2)	1 (4.5)	3 (13.6)	-	-
Evidence-based Practice	4 (3.4)	4 (18.2)	2 (9.1)	1 (4.5)	1 (4.5)	-
Health/Wellness/Health Promotion	4 (3.4)	4 (18.2)	1 (4.5)	2 (9.1)	1 (4.5)	-
Expert	3 (2.5)	3 (13.6)	2 (9.1)	-	-	1 (4.5)
Adaptive/Dynamic Healthcare Environment	2 (1.7)	2 (9.1)	1 (4.5)	-	1 (4.5)	-
Advance Profession	2 (1.7)	2 (9.1)	1 (4.5)	1 (4.5)	-	-
Competent/Critical Thinking/Clinical Reasoning	2 (1.7)	2 (9.1)	1 (4.5)	-	1 (4.5)	-
Faith-based	2 (1.7)	2 (9.1)	1 (4.5)	1 (4.5)	-	-
Humanistic/Humanitarian	2 (1.7)	2 (9.1)	2 (9.1)	-	-	-
Stewardship/Resource Utilization	2 (1.7)	1 (4.5)	1 (4.5)	1 (4.5)	-	-
Advocacy/Advocate	1 (0.8)	1 (4.5)	1 (4.5)	-	-	-
Autonomous Practice	1 (0.8)	1 (4.5)	1 (4.5)	-	-	-
Faculty-centered	1 (0.8)	1 (4.5)	-	1 (4.5)	-	-
Inclusive/Equity	1 (0.8)	1 (4.5)	-	1 (4.5)	-	-
Learner-centered	1 (0.8)	1 (4.5)	-	1 (4.5)	-	-
Lifelong Learning	1 (0.8)	1 (4.5)	1 (4.5)	-	-	-
Primary Professional/Provider	1 (0.8)	1 (4.5)	1 (4.5)	-	-	-
Collegial/Supportive	-	-	-	-	-	-
Patient-centered	-	-	-	-	-	-
Reflective/Self-aware	-	-	-	-	-	-

Figure 3 provides a side-by-side visual comparison of the highest prioritized codes of academic program mission and vision statements across each of the categories and as a summative total. Mission statements ranked Society/Community/Social Responsibility (N=25, 49.0%) and Competence/Critical Thinking/Clinical Reasoning (N=25, 49.0%) most highly for the graduate while vision statements ranked Leader/Leadership (N=4, 18.2%) and Society/Community/Social Responsibility (N=4, 18.2%) most highly for the graduate. Scholarship/Research (N=16, 31.4%) was utilized most frequently for the program while vision statements utilized Recognition (N=9, 40.9%) and Leader/Leadership (N=9, 40.9%) most frequently. For the educational environment, mission statements ranked Learner-centered (N=5, 9.8%) and Service/Service-oriented (N=5, 9.8%) most highly. Vision statements utilized Scholarship/Research (N=2, 9.1%) most frequently in relation to the educational environment. For the faculty category, mission statements ranked Scholarship/Research (N=4, 7.8%) most highly while vision statements only mentioned four codes; Excellence, Scholarship/Research, Innovation/Innovativeness, and Expert (N=1, 4.5%).

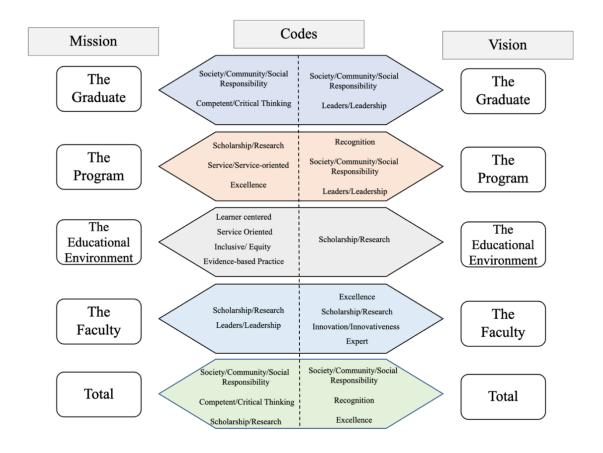


Figure 3. Highest Ranked Codes Across Mission and Vision

Discussion

Mission Statement Profile

The mission statements of entry-level DPT academic programs highly prioritized the graduate with over 60% of codes being specific to this category. Nearly half (49.0%) of all programs identified Competent/Critical Thinking/Clinical Reasoning within their mission statements for the graduate. This was both explicit, "competent generalist physical therapists," and implicit, "graduate an entry-level physical therapist," relating to global knowledge, skills, and attitudes of the graduate. While graduating competent practitioners is a terminal goal of all entry-level DPT academic programs, this commonly

used theme complements competency-based education as a means for ensuring clinical readiness. 13-15 Equally prioritized was Society/Community/Social Responsibility in relation to the graduate with language such as "supporting the global community" and "enhance the physical health and functional abilities of the members of the public." The mission of the APTA relates clinical practice to societal needs with recent publications supporting the role of physical therapists in driving societal health and positive outcomes. 16-18 The data further aligned with the PT profession and values in that Movement/Rehab Science and Evidence-based Practice were also highly ranked as seen in a sample excerpt of a program mission statement, "To advance health, human movement, and rehabilitation sciences...".5 Other coding commonalities extended to the graduate's ability to practice within an Ethical/Moral/Legal framework, be effective Leaders in multiple contexts, exhibit Humanistic/Humanitarian characteristics and promote *Health/Wellness* through clinical practice. These additional codes echo aspects of professional values and ethics as outlined in the APTACV and APTA Code of Ethics and reinforced in The Guide 4.0.5,6,19

Less than 25% of mission statements identified characteristics or outcomes directly about *the program* itself. However, the highest prioritization for *the program* was *Scholarship/Research* followed by *Society/Community/Social Responsibility*. *Excellence* was also an aspect of *the program* mentioned by nearly 25% of programs, some with specificity to areas of excellence, "excellence in teaching, clinical practice and scholarship," and others as a general trait, "dedicated to excellence." While difficult to quantify and sparsely defined, *Excellence* is the pivotal and consistent variable identified throughout contemporary scholarly work for physical therapy education in the *National*

Study of Excellence and Innovation in Physical Therapist Education and A Vision for Excellence and the Excellence Framework in PT Education.^{3,20-22} Roughly 10% of programs identified the educational environment in their mission statement, though Learner-centered and Service/Service-oriented learning environments were mentioned most frequently. Codes referring to the faculty were infrequent, only comprising 2% of all mission codes.

Vision Statement Profile

The vision statements of entry-level DPT academic programs were distinctly different than their mission statements in that they pointed heavily toward the program with the graduate as a secondary focus. Highest rankings were Leaders/Leadership and Recognition, "the vision [of the program] is to be recognized regionally," as highest priorities. The emphasis on leadership by programs is supported by the recent establishment of the APTA Leadership Congress and explored in relation to professionalism and a call to action on a leadership framework for physical therapist education.²³⁻²⁵ Society/Community/Social Responsibility continues to rank highly as a priority of the program, which was also highly utilized in mission statements restating the academics program commitment to societal needs. While secondary, the graduate codes with most frequency were Leaders/Leadership and Society/Community/Social Responsibility, paralleling codes specific to the program. Other codes included the Diversity/Openness/Cultural Awareness of graduates along with Collaborative/Collaboration/Partnership, Expert ability, and Humanistic/Humanitarian characteristics expressing the diverse characteristics and areas of competence of learners.

Codes speaking to *the educational environment* and *the faculty* combined to equate to only 10% of the vision statement codes.

Mission and Vision Comparison

Together, mission and vision statements prioritized the program and the graduate while acknowledging aspects of the educational environment and the faculty (Figure 3). The direction of the mission statement profile toward the graduate indicates the goals of most programs relate to the immediate and continuing professional formation of graduates. In contrast, the vision statements relate most to the program with futuristic traits and aims. Despite these differences, the overarching code of Society/Community/Social Responsibility is a strong component of both mission and vision statements, speaking to the focus of the physical therapy profession in meeting societal needs.

Less frequently used codes represent meaningful differences in mission and vision statements, highlighting the diversity and uniqueness of educational programs in emphasizing specific program values and goals. These specified areas of emphasis and development impact the graduate beyond standardized or reported metrics – Faith Based, Lifelong Learning, Diversity/Openness/Cultural Awareness, Humanistic/Humanitarian, Reflective/Self-awareness, and Adaptive/Dynamic Healthcare Environment. These goals and values may foster equitable, humanistic, open, self-aware, patient-focused, innovative, and adaptable graduates. Similarly, vision statements highlight unique program values and goals in Diversity/Openness/Cultural Awareness, Innovation/Innovativeness, and Collaborative/Collaboration/Partnership, signaling that additional priorities of the program may exist.

Many of the identified codes align with aspects of the APTACV, though programs identified additional codes not included and categories beyond the clinician, such as Faith-based, Reflection/Self Awareness, Expert, and Learner-Centered. Several core values including altruism and compassion/caring thread throughout various codes including Humanistic/Humanitarian and Patient-centered. Accountability, integrity, and duty parallels Ethical/Moral/Legal and Stewardship/Resource utilization while also extending into autonomous practice and other clinical codes. Some core values have a direct coding match including excellence, collaboration, and inclusion. However, the breadth of programmatic goals and values expresses values integral to educational excellence in the field of physical therapy but with a broader lens which includes the faculty, the educational environment, and the program.

Limitations

This study utilized a stratified random sample which introduces bias based on prioritization of ACAPT region and Carnegie classification. Similarly, though coding saturation was attained after coding 16 programs, an additional code emerged suggesting unique aspects of institutions not included in this sample may not have been considered. The frequency with which programs update mission and vision statements is unknown—some being recent with others unchanged for several years, not capturing contemporary changes to the program, the profession, or society. While coding into four broad categories allowed for discrimination of the aims and goals into coding groups, statements were sometimes cross categorical or difficult to categorize. As seen in the following statement, "Engage innovative thinkers to optimize health through movement," the actor is not known and "thinkers" may relate to a variety of individuals within the

educational setting. Lastly, the unknown extent to which programs embrace, integrate, and live mission and vision statements may greatly influence the generalizability and application of findings.

Future studies may explore the relationship of mission and vision statements to academic program demographic characteristics suggesting specific categories and trends among institutions. Additionally, studies assessing how program directors and faculty integrate and model mission and vision statements into curriculum and culture may inform a better understanding of how these statements impact learners and learner outcomes both academically and clinically.

Conclusion

Entry-level DPT program mission and vision statements speak broadly to programmatic goals and values. Based on a stratified random sample of program mission and vision statements, four categories emerged including the graduate, the program, the educational environment, and the faculty. Mission statements focused primarily on the graduate with prioritization of Competent/Critical Thinking/Clinical Reasoning and Society/Community/Social Responsibility. Vision statements were available for fewer than half of the programs and predominantly focused on the program with emphasis on Society/Community/Social Responsibility, Recognition, and Excellence. The educational environment and the faculty were a minimal focus of both mission and vision statements but emphasized Scholarship/Research.

While generalized profiles emerged from mission and vision statements suggesting unity among academic programs, unique values, traits, and goals characterize and differentiate programs and their respective institutions. This suggests that while great

homogeneity is present among entry-level, DPT academic program priorities and values through their mission and vision statements, significant differences exist as well. Many mission and vision statements echo movements within the sphere of physical therapy education including excellence and innovation, leadership, diversity and inclusion, collaboration, and lifelong learning. These same statements also support and expand upon the APTACV in expressing values congruent with the profession. Together, commonly held values and individual differences in academic program mission and vision statements represent unified values and goals while allowing for expression of unique program priorities.

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Appendix A: IRB Exemption

Date: 6-10-2023

IRB #: 2023-22

Title: The Values of Physical Therapy Education Programs in the United States

Creation Date: 8-4-2022

End Date: Status: Approved

Principal Investigator: Cara Carramusa Review Board: YSU IRB Board

Sponsor:

Study History

Submission Type Initial	Review Type Exempt	Decision Exempt
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Key Study Contacts

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Member Matthew Mucha	Role Primary Contact	Contact
Member Matthew Mucha	Role Co-Principal Investigator	Contact

Getting Started

About Youngstown State University IRB and Cayuse IRB

All research projects conducted under the auspices of Youngstown State University that involve the use of living human subjects, samples or data obtained from them, directly or indirectly, with or without direct consent, <u>must receive approval from the Institutional Review</u> Board **before** the project can begin.

Cayuse IRB is an interactive web application. As you answer questions, new sections relevant to the type of research being conducted will appear on the left-hand side. Therefore not all numbered sections may appear. You do not have to finish the application in one sitting. All information can be saved.

For more information about the IRB regulations and procedures, please refer to the <u>IRB</u> Handbook.

Getting Started

All YSU faculty, students, and staff who are involved with human subjects research must complete training through the CITI Program (INSTRUCTIONS for registering and completing training).

New investigators should consider beginning the online training course up to two weeks prior to the submission of an IRB Protocol or grant application, and prior to beginning the planned research project

Throughout the submission, you will be required to provide the following:

- Research instruments (surveys, questionnaires, or other instruments)
- Detailed Study Information
- Informed Consent Forms, if applicable
- · Waiver of Informed Consent Form, if applicable
- Study Recruitment Information

•	Approval letters	from other	sites where	research will be	conducted.	if applicable
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Youngstown State University IRB

- You may not begin your research project and recruitment of subjects until a formal approval letter from the chair of the IRB has been received.
- The IRB meets as needed during the regular academic year. Please submit the application as soon as possible.

*required

I have read the information above and I am ready to begin my submission.

✓ Yes

*required

Is this a student-conducted study /project?

All students conducting a study/project are required to list their faculty advisor(s)/Principal Investigator (PI) in the YSU study personnel section.

✓ Yes

No

*required

What is your status at Youngstown State University?

Faculty

Student
*required

Undergraduate Student

Graduate Student

Youngstown State University Study Personnel

List all YSU study personnel involved in the conduct of this study.

If you cannot find a person in the people finder, please contact the IRB Office immediately at YSUIRB@ysu.edu

*required

Principal Investigator or Faculty Advisor

Provide the name of the Principal Investigator or the Faculty Advisor for student-conducted studies.

Name: Cara Carramusa

Organization: Grad Health 141214

Address: One University Plaza , Youngstown, OH 44555-0001

Phone: 330-941-1963 Email: cacarramusa@ysu.edu

*required

Primary Contact

Provide the name of the Primary Contact of this study.

Name: Matthew Mucha

Organization: Grad Health 141214

Address: One University Plaza , Youngstown, OH 44555-0001

Phone: Email:

*required

Student Investigator(s)

Provide the name of the Student Investigator(s) for this study.

Name: Matthew Mucha

Organization: Grad Health 141214

Address: One University Plaza , Youngstown, OH 44555-0001

Phone: Email:

Co-Investigator(s)

Provide the name(s) of Co-Investigator(s) for this study.

*required

Non-Youngstown State University Personnel

✓ Yes

	*required Name of non-YSU personnel Christine McCallum *required Phone number of non-YSU personnel					
	(330)490-7252					
	*required Email address of non-YSU personnel					
	cmccallum@walsh.edu					
	*required Name of Affiliation of non-YSU personnel					
	Walsh University					
	Additional non-YSU personnel					
	List all the names, phone numbers, email addresses and names of affiliations of additional non-YSU personnel. Leigh Murray; (816)423-4681; Imurray1@graceland.edu; Graceland University Elizabeth Domholt; (218)213-6102; bdomholdt@gmail.com; n/a					
	No					
*required Spons	or					
Will th	is study be supported by an external agency?					
	Yes					
✓	No					

Study Dates

Provide the anticipated study start and end dates.

*required

Start Date

10-01-2022

*required

End Date

01-31-2023

* "	_	all	nir	0	4

Where will this study/project take place?

Location of research

✓ Youngstown State University

Other facility

Multiple other facilities

*required

What type of study/project is this submission?

Type of research

✓ Research Study/Creative Investigation

A research study or creative investigation is a project that uses systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge (45 CFR 46.102(d)).

Clinical Trial

Single Patient, Treatment Use, Continued Access Drug/Device Study

Emergency (or Compassionate) Use of Investigational Drug or Device

*required

Will this study/project ONLY use pre-existing data?

Pre-existing data means the data existed before or was collected prior to the study/project was proposed for a purpose other than the proposed study/project. (For purposes of a grant, this refers to data collected prior to the time the study/project was proposed.)

Select **no** if the study includes a combination of pre-existing and new data.



*required

Provide a short description of the study/project

Purpose: This qualitative study aims to analyze the publicly available values and missions statements of accredited physical therapy education programs within the United States through thematic coding

Data Sources: Programs will be identified from the Commission on Accreditation in Physical Therapy Education list of accredited physical therapy programs within the United States.

Sampling: Stratified sampling will be implemented with two strata (region and Carnegie Classification) to ensure adequate representation of geographical location and institution type.

Coding/Analysis: Coding the mission and values statements will follow a deductive semantic approach aligning with the recommendations of Williams and Moser in "The Art of Coding and Thematic Exploration in Qualitative Research." Values groupings will be based on the American Physical Therapy Association Core Values framework as well as professional values within physical therapy as outlined by Buyczuk et al.

Saturation: Saturation will be determined using the method developed by Guest, Namey and Chen in "A

simple method to assess and report thematic saturation in qualitative research" utilizing base and run length with a new information threshold of less than or equal to 5%.

Results: Values identified through coding will be presented as a general profile of physical therapy programs as well as geographically and based on Carnegie Classification.

Conflict of Interest

*required

Do you or any investigator(s) participating in this study have a financial interest related to this research project?

Yes

✓ No

,	Attachments (Optional)				
	This section is an overview of all the attachments in your application.				
	Attach outside IRB records in this section under Outside IRB of Record .				
_	Other Facility				
	If applicable, include the Letter of Cooperation.				
	Other facilities				
_	If applicable, include all the Letters of Cooperation.				
_	Study Procedures				
	If applicable, attach the following documenttion				

Study Documents

If applicable, this includes flyers used for recruitment.

_	Study Instruments
	If applicable, attach all instruments (i.e. surveys, questionnaires, evaluation blanks, etc) to be used in the study.
_	Existing data (archives/databases,)
	If applicable, include permission to access.
	FDA Letter
	If applicable, attach FDA Letter.
ar	icipant Protection
	ch applicable forms
	ch applicable forms
	ch applicable forms Written consent/assent form
	ch applicable forms Written consent/assent form

If applicable, attach outside IRB records

Study Protocol

Attach the protocol for this study that was reviewed by the Outside IRB.

Outside IRB Approval

Attach the IRB Approval from the Outside IRB.

Outside IRB Review Meeting Minutes

Attach the minutes from the outside IRB meeting(s) for the review of this study.

Outside IRB Correspondence

Attach all correspondence concerning the review of this study by the Outside IRB.

Chapter 5

Summary and Conclusions

Purpose

This hybrid, mixed methods, multi-manuscript dissertation intended to explore values in physical therapy (PT) practice and education with a scoping review of literature specific to values and PT, inquiry of individual PT practitioner values utilizing Basic Human Values Theory and the Revised Portrait Values Questionnaire (PVQ-RR), and a qualitative analysis of entry-level DPT academic program values within the context of program mission and vision statements.

Summary of Findings

Study 1: Values in Physical Therapy: A Scoping Review

Aim: Synthesize values literature published within PT through a scoping review.

Of the 31 studies examining values in physical therapy, 16 used the American Physical Therapy Association's Core Values (APTACV) as a framework or the Professionalism in Physical Therapy Core Values Self-Assessment (PPTCVSA) as an assessment tool. ^{1,2} Only six studies assessed values among PT practitioners while student physical therapists (SPT) served as subjects in twenty of the studies. Four distinct applications were found within study results: professional values, values formation, tools for values assessment, and the impact of interventions on values. With respect to professional values, the APTACV was the dominant framework for the literature around professional values. With that, several studies suggested prioritization of additional professional values including recognition, equity, and cultural competence. The literature speaking to values formation suggested that individual values were foundational in the

formation of professional values with multiple other key influences such as professional mentors and immersion in clinical and professional environments. The tool most widely utilized to assess professional values was the PPTCVSA with other assessments relating primarily to professional behaviors (Professional Behavior Assessment, Comprehensive Professional Behavior Development Log, and Professional Assessment Tool). Despite the PPTCVSA identifying as a self-assessment tool that determines the frequency of valuesassociated behaviors and aims to raise "awareness about the core values," it displayed variable psychometric properties with unknown construct validity and was mostly studied among SPTs.² Interventions directed at values formation involved community outreach and service-learning which were found to promote professional values awareness and integration. Full-time clinical experiences also increased overall PPTCVSA scores though the subcategories of social responsibility and altruism had lower endorsed frequencies in one study. Curricular teaching strategies of self-reflection and selfassessment were found to be explicitly value laden though the influence of implicit and explicit curriculum on values development is not known.

Professional values are woven throughout physical therapy education and practice, though study designs favored exploration of professional values among SPTs. The primary tool for PT values assessment, the PPTCVSA, has variable psychometric properties limiting the applicability of studies reporting values change within the APTACV framework. However, the relevance of professional values remains, acting as a guide for attitudes, behaviors, dispositions, and decision-making for SPTs as a component of excellence in PT education and for clinicians as members of an interdisciplinary team and relational profession serving patients and other stakeholders.

Study 2: The Basic Human Values of Physical Therapists: A Cross-Sectional Survey Using the Revised Portrait Values Questionnaire (PVQ-RR)

Aim: Determine the general values profile of a randomized sample of physical therapists across the United States while exploring sub-profiles associated with demographic and practice-specific variables.

A total of 63 physical therapists completed the Revised Portrait Values

Questionnaire (PVQ-RR) and participant demographic survey. Individual physical
therapists shared commonalities in their human values profile while some values varied
with personal and demographic factors. The resulting data suggests values highly
prioritized by physical therapists are others-centric (self-transcendent) while values selffocused (self-enhancing) had lower priority. Physical therapists endorsed the values of

Benevolence and Universalism highest and Power lowest. The values with significant
associations with personal factors were Security, Conformity, Tradition, Self-direction,
Universalism Concern, and Universalism Tolerance. The demographic factors
influencing values were age, years of practice, clinical practice setting, and level of
degree attained. However, all significant variables have a significant association to age in
that increased years of practice, bachelor's degree holders, and those not practicing or in
clinical roles are significantly older within this cohort.

When compared to a prior study of human values in physical therapists from 2005, the overall ten-value profile retained *Benevolence* as the highest ranking with *Power* as the lowest.³ However, the overall values profile shifted away from self-focused/self-enhancement (*Achievement* and *Hedonism*) towards values that are others-focused/self-transcendent (*Universalism* and *Benevolence*).

The positive shift with *Universalism* in the ten-value categories and the highest-ranking value of *Universalism Tolerance* in the nineteen value categories are congruent with the recent addition of *Inclusion* to the APTACV. The values of *Inclusion* and *Universalism* speak to welfare and regard for others which is a tenant of societally relevant PT practice.⁴

Study 3: Physical Therapist Academic Program Values: A Thematic Coding of Mission and Vision Statements

Aim: Explore the missions and visions of a representative sample of entry-level, Doctor of Physical Therapy (DPT) academic programs to determine if there are common values and values groupings consistent with contemporary literature for excellence in physical therapist education and the APTACV.

A total of 51 entry-level DPT academic programs were identified through stratified sampling of a list of accredited programs through ACAPT. Stratification occurred by Carnegie classification and ACAPT-identified geographic regions with the intent to represent programs based on type and geography. Thematic analysis and coding of mission and vision statements yielded four categories (the graduate, the program, the educational environment, and the faculty) and 30 distinct codes as shown in Table 1. Mission programs regularly addressed and prioritized the graduate emphasizing Society/Community/Social Responsibility and Competent/Critical Thinking/Clinical Reasoning. Vision statements were present for less than half of the programs and prioritized the program and emphasized Leaders/Leadership and Recognition. However, for mission and vision statements, Society/Community/Social Responsibility was the most used code across all categories emphasizing the importance of societally impactful

practice. The educational environment and the faculty were less commonly used categories with codes pertaining to Learner-Centered, Scholarship/Research, Excellence, Expert, and Leaders/Leadership. Less commonly used codes represent unique aspects of entry-level DPT academic program mission and vision statements, showcasing diversity in programmatic values and themes amidst strong commonalities.

This study highlights both diversity and solidarity within entry-level DPT educational programs. With a firm grasp on the need for societally impactful students and clinicians while promoting leadership and recognition for *the program*, other aspects are welcome to shine throughout various programs, cultivating a dynamic learning environment which meets Commission on Accreditation in Physical Therapy Education (CAPTE) required standards but may also support uniqueness with professional identity formation (PIF) based on individual programmatic values.

Table 3. Listing of Thematic Codes

Lifelong Learning	Scholarship/Research	Movement/Rehab Science
Competent/Critical Thinking/Clinical Reasoning	Innovation/ Innovativeness	Autonomous Practice
Stewardship/Resource Utilization	Humanistic/ Humanitarian	Society/Community/ Social Responsibility
Faculty-centered	Service/Service-oriented	Advocacy/Advocate
Learner Centered	Recognition	Faith Based
Health/Wellness/ Health Promotion	Collaborative/Collaboration/ Partnership	Expert
Excellence	Patient-Centered	Reflective/Self-aware
Diversity/Openness/ Cultural Awareness	Leaders/Leadership	Adaptive/Dynamic Healthcare Environment
Inclusive/Equity	Evidence-based Practice	Primary Professional/Provider
Collegial/Supportive	Ethical/Moral/Legal	Advance Profession

Study Limitations

Several limitations to the studies completed were anticipated while others were encountered throughout the research process. Anticipated limitations included the sparse evidence on physical therapist values beyond the professional construct of the APTACV and student-based studies of values formation. Similarly, surveying a representative sample of physical therapists is challenging in that there lacks a single source for licensure data with each state independently managing licensure lists while also regulating access to the lists.

Unanticipated limitations included the diversity in study structure and design within the published literature of PT values. Many studies integrated adjacent components of values including behavior assessment and non-validated subscales of the PPTCVSA while others loosely defined values, making synthesis of relevant values-specific content challenging. Within the study of individual values, response rate was low, introducing various limitations including response bias and limited sample generalizability. The coding of mission and vision statements revealed the challenges of locating mission and vision statements with more than half of programs lacking a vision statement. The breadth of many mission and vision statements led to an adjustment in the coding process from being deductive and utilizing the APTACV to being inductive which led to various categories and program goals and values which are not captured within the APTACV constructs.

Recommendations for Future Research

Recommendations for future research may focus on a variety of values associated constructs including contemporary updates to professional values, further exploration of

individual values in PT, and the relationship between practitioner values and clinical outcomes.

A focus on the APTACV and underlying values construct ought to be a primary focus of future research and working groups. Integration of *Inclusion* to the APTACV and examination of other adjacent values including *Leaders/Leadership* and *Recognition* may yield a more comprehensive and contemporary guiding document for professional core values within PT. As changes occur in the APTACV, the corresponding PPTCVSA will require mirrored revisions aligning professional values with contemporary practice and behaviors. As suggested by Thomas et al, many of the items within the PPTCVSA could be compressed to allow for a more user-friendly and efficient tool.⁵ Furthermore, revisions of the tool should include validation of its psychometric properties for all appropriate audiences (clinicians, educators, and students).

Assessment of individual values in PT should focus on building a comprehensive profile including students, academic and clinical faculty, clinicians and post-professional learners. As Sagiv noted, "Occupations facilitate attainment of the goals that their members consider to be important." Thus, a fuller understanding of individual values will inform the goals and priorities of the profession while directing components of PIF.

There is value in understanding the association of practitioner values to clinical outcomes, though this data is nonexistent. Additionally, PT lacks an appropriate outcome tool to assess values in a clinical context reinforcing the need for validated tools from a variety of lenses.

Implications for Practice

The values of physical therapists are framed within the context of personal values, values that are taught and integrated in the professional preparation of SPTs, and value expectations of professional practice. Personal values form a foundation for professional values and serve as the root of dispositions, behaviors, and attitudes. Values taught in the academic preparation of physical therapists are a primary component of PIF, establishing the values learners will integrate into the workforce. Professional values guide the practice of clinicians and inform stakeholders of desired goals and dispositions of the individual and collective PT community.

Values are a component of the affective domain (AD) of education which parallels the AD in practice. The AD comprises the identity of the physical therapist and moves beyond the knowing (cognitive) and doing (psychomotor) to the being of PT. Values permeate the other two domains and inform the lens through which knowledge is acquired and expressed while establishing the context in which skills are utilized and situationally applied. Values inform the cognitive and psychomotor domains and provide the humanistic context through which clinicians build the therapeutic alliance within patient-centered care. Without an understanding of values across the individual, educational, and professional domains, effective clinical care cannot be fully conceptualized.

Conclusion

Physical therapists maintain individual values while practicing within the context of professional values and behaviors learned throughout the PIF process including academic preparation. As the PT profession continues to fulfill their societal contract in

meeting the needs of stakeholders served and preserves the integrity of the profession of being competent and caring clinicians who deliver high-quality, patient-centered, humanistic care, values ought to be at the forefront of research and exploration within the context of professionalism and PIF. Without a fully developed and empirically informed framework of values for the physical therapist, the profession may be cultivating value imitators as opposed to clinicians who truly internalize and integrate values into effective clinical practice and beyond.

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